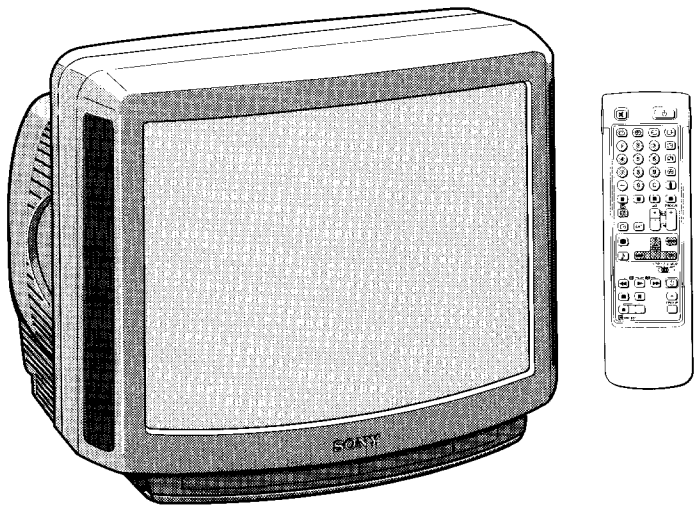


# SERVICE MANUAL

# AE-2B CHASSIS

MODEL	COMMANDER	DEST.	CHASSIS NO.	MODEL	COMMANDER	DEST.	CHASSIS NO.
KV-X2173B	RM-831	French	SCC-G57P-A				



TRINITRON® COLOR TV  
**SONY®**

ITEM	MODEL	Television System	Stereo System	Channel Coverage	Color System
				L VHF:F02-F10 UHF:F21-F60 CABLE:B-Q B/G/H VHF:E2-E12 UHF:E21-E69 CABLE TV (1):S1-S41 CABLE TV (2):S01-S05, M1-M10, U1-U10 ITALIA VHF:A-H2 (C) UHF:21-69 I UHF:B21-B69	
French		B/G/H, D/K L, I	GERMAN NICAM Stereo		PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)

MODEL	French
Power Consumption	98W

## SPECIFICATIONS

Picture Tube      Hi-Black Trinitron  
 Approx. 54.5 cm (21 inches)  
 (Approx. 51 cm picture measured  
 diagonally)  
 100° -deflection

### Input/Output Terminals

#### [REAR]

- Ⓐ-1 21-pin Euro connector (CENELEC standard)
  - inputs for audio and video signals
  - inputs for RGB
  - outputs of TV video and audio signals
- Ⓐ-2/Ⓐ-3 2 21-pin Euro connector
  - inputs for audio and video signals
  - inputs for S video
  - outputs for audio and video signals (selectable)
- Ⓐ-4 Audio outputs (variable) - phono jacks

#### [FRONT]

- Ⓐ-1 Video input - phono jack
- Ⓐ-2 Audio inputs - phono jacks
- Ⓐ-3 S video input 4-pin DIN
- Ⓐ-4 Headphone jacks : stereo minijack

- Sound output      2 x 12W (RMS)  
                          2 x 30W (Music)
- Power requirements      220 - 240V
- Dimensions      Approx. 517x443x485 mm
- Weight      Approx. 28kg
- Supplied accessories      RM-831 Remote Commander (1)  
                          IEC designation R6 battery (1)
- Other features      NICAM , FASTEXT.

#### [RM-831]

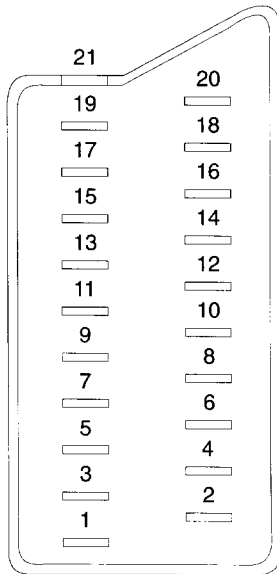
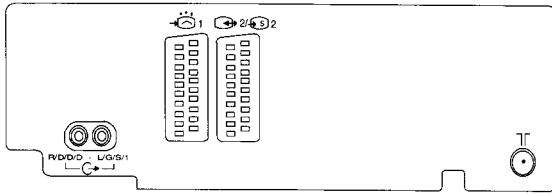
- Remote control system      infrared control
- Power requirements      1.5V dc  
                          1 battery IEC designation  
                          R6 (size AA)
- Dimensions      Approx. 65x225x21 mm (w/h/d)
- Weight      Approx. 157g (Not including batteries)

**Design and specifications are subject to change without notice.**



Item	Model name
	KV-X2173B
Pal Comb	OFF
PIP	OFF
RGB Priority	ON
Woofer Box	OFF
Scart 1	ON
Scart 2	ON
Front in (3)	ON
Scart 4	OFF
Dyn. Convergence	OFF
Projector	OFF
AKB in 16:9 mode	ON
Norm B/G	ON
Norm I	ON
Norm D/K	ON
Norm AUS	OFF
Norm L	ON
Norm SAT	OFF
Norm M	OFF
Nicam Sys. L	ON
Language Preset	Francais

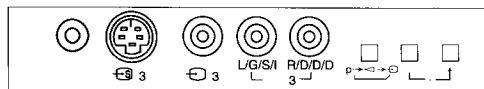
## 21 pin connector ( 1 2 4 )



Pin No.	1	2	4	Signal	Signal level
1	○	○	○	Audio output B (right)	Standard level : 0.5V rms Output impedance :Less than 1kohm*
2	○	○	○	Audio input B (right)	Standard level : 0.5V rms Output impedance :More than 10kohm*
3	○	○	○	Audio output A (left)	Standard level : 0.5V rms Output impedance :Less than 1kohm*
4	○	○	○	Ground (audio)	
5	○	○	○	Ground (blue)	
6	○	○	○	Audio input A (left)	Standard level : 0.5V rms Output impedance :More than 10kohm*
7	○	●	●	Blue input	0.7 ± 3dB, 75 ohms, positive
8	○	○	○	Function select (AV control)	High state (9.5 - 12V) : Part mode Low state (0 - 2V) : TV mode Input impedance : More than 10k ohms Input capacitance : Less than 2nF
9	○	○	○	Ground (green)	
10	○	○	○	Open	
11	○	●	●	Green	Green signal : 0.7 ± 3dB, 75 ohms, positive
12	○	○	○	Open	
13	○	○	○	Ground (red)	
14	○	○	○	Ground(blanking)	
15	○	—	—	Red input (S signal) croma input	0.7 ± 3dB, 75 ohms, positive 0.3 ± 3dB, 75 ohms, positive
16	○	●	●	Blanking input (Ys signal)	High state (1 - 3V) Low state (0 - 0.4V) Input impedance : 75ohms
17	○	○	○	Ground(video output)	
18	○	○	○	Ground(video input)	
19	○	○	○	Video output	1V ± 3dB, 75ohms, positive sync:0.3V(-3+10dB)
20	○	—	—	Video input Y (S signal)	1V ± 3dB, 75ohms, positive sync:0.3V(-3+10dB)
21	○	○	○	Common ground (plug, shield)	

○ Connected ● Not Connected (open) \* at 20Hz - 20kHz

Pin No	Signal	Signal level
1	Ground	
2	Ground	
3	Y (S signal) input	1V ± 3dB 75 ohm , positive Sync. 0.3V -3/+10 dB
4	C (S signal) input	0.3V ± 3dB 75 ohm , positive Sync.



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### CAUTION

**SHORT CIRCUIT THE ANODE OF THE PICTURE TUBE AND THE ANODE CAP TO THE METAL CHASSIS, CRT SHIELD, OR CARBON PAINTED ON THE CRT, AFTER REMOVAL OF THE ANODE CAP.**

### WARNING !!

AN ISOLATING TRANSFORMER SHOULD BE USED DURING ANY SERVICE WORK TO AVOID POSSIBLE SHOCK HAZARD, DUE TO A LIVE CHASSIS. THE CHASSIS OF THIS RECEIVER IS DIRECTLY CONNECTED TO THE AC POWER LINE.

### SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY SHADING AND MARKED  ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL FOR SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLIMENTS PUBLISHED BY SONY.


### ATTENTION

**APRES AVOIR DECONNECTE LE CAP DE L'ANODE, COURT-CIRCUITER L'ANODE DU TUBE CATHODIQUE ET CELUI DE L'ANODE DU CAP AU CHASSIS METALLIQUE DE L'APPAREIL, OU AU COUCHE DE CARBONE PEINTE SUR LE TUBE CATHODIQUE OU AU BLINDAGE DU TUBE CATHODIQUE.**

### ATTENTION !!

AFIN D'EVITER TOUT RISQUE D'ELECTROCUTION PROVENANT D'UN CHÂSSIS SOUS TENTION, UN TRANSFORMATEUR D'ISOLEMENT DOIT ETRE UTILISÉ LORS DE TOUT DÉPANNAGE. LE CHÂSSIS DE CE RÉCEPTEUR EST DIRECTEMENT RACCORDÉ À L'ALIMENTATION SECTEUR.

### ATTENTION AUX COMPOSANTS RELATIFS À LA SÉCURITÉ !!

LES COMPOSANTS IDENTIFIÉS PAR UNE TRAME ET PAR UNE MARQUE  SUR LES SCHÉMAS DE PRINCIPE, LES VUES EXPLOSÉES ET LES LISTES DE PIÉCES SONT D'UNE IMPORTANCE CRITIQUE POUR LA SÉCURITÉ DU FONCTIONNEMENT, NE LES REMPLACER QUE PAR DES COMPOSANTS SONY DONT LE NUMÉRO DE PIÉCE EST INDIQUÉ DANS LE PRÉSENT MANUEL OU DANS DES SUPPLÉMENTS PUBLIÉS PAR SONY.

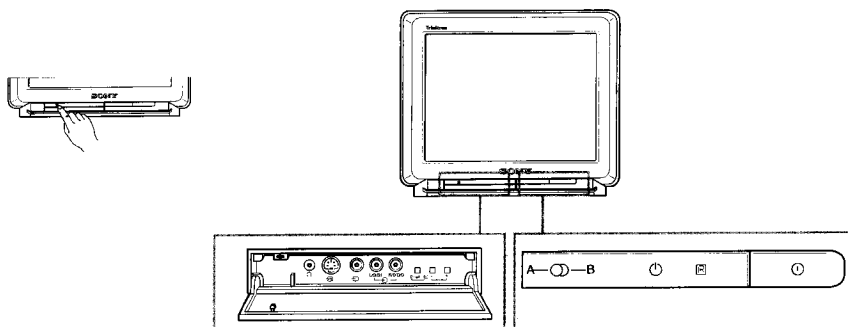
# SECTION 1 GENERAL

## Overview

The operating instructions mentioned here are partial abstracts from the Operating Instruction Manual. The page numbers of the Operating Instruction Manual remain as in the manual.

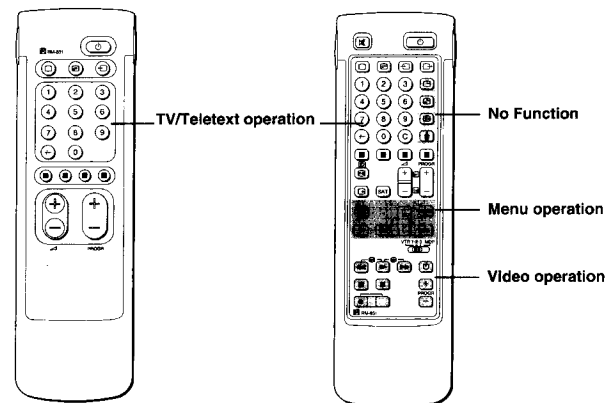
This section briefly describes the buttons and controls on the TV set and on the Remote Commander. For more information, refer to the pages given next to each description.

### TV set - front



Symbol	Name	Refer to page
⏻	Main power switch	13
⏻	Standby indicator	13
A-CD-B	Stereo A/B indicators	15
🔊	Headphones jack	20
📺, 📺, 📺	Input jacks (S-video/video/audio)	20
📺	Function selector (Programme/volume/input)	13
⏮, ⏪, ⏩, ⏭	Adjustment buttons for function selector	13

### Remote Commander RM-831



**Note**  
The SAT button does not operate with this TV.

Simple side

Full-Function side

### TV/Teletext operation

Symbol	Name	Refer to Page
⏻	Mute on/off button	14
⏻	Standby button	13
📺	TV power on/TV mode selector button	13
📺	Teletext button	14
📺	Input mode selector	14
📺	Output mode selector	21
1,2,3,4,5,6,7,8,9, and 0	Number buttons	13
12, 34	Double-digit entering button	13
C	Direct channel entering button	10
△+/-	Volume control button	13
PROGR +/-	Programme selectors	13
📺	Teletext page access buttons	17
📺	Picture adjustment button	15
📺	Sound adjustment button	15
📺	On-screen display button	14
📺	Teletext hold button	17
📺	Time display button	14
📺	Fasttext buttons	17

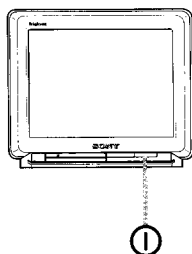
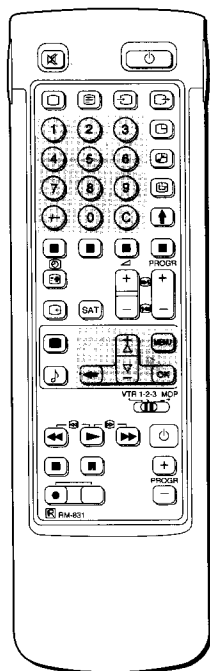
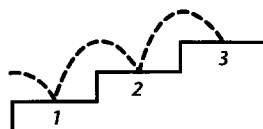
### Menu operation

Symbol	Name	Refer to Page
MENU	Menu on / off button	7
△+/-	Select buttons	7
OK	OK (confirming) button	7
⏮	Back button	7

### Video operation

Symbol	Name	Refer to Page
VTR1/2/3	Video equipment selector	22
MDP		
⏮, ⏪, ⏩, ⏭	Video equipment operation buttons	22
PROGR +/-		

# Step 3 Tuning in to TV Stations



**To go back to main menu:**  
Keep pressing ◀.

**To go back to the normal TV picture:**  
Press MENU. Normal TV picture will be restored after one minute if menu functions are not selected.

**Note on the Demo function:**  
If you choose Demo on the main menu, you can see a sequential demonstration of the menu functions. Press MENU to stop the function.

Once you have set up the TV, you can choose the language of the menu. Then you should preset the channels (up to 60 channels) by choosing either the automatic or manual method.

The automatic method is easier if you want to preset all receivable channels at once. Use the manual method if you only have a few channels and want to preset channels one by one. The manual method is also convenient for allocating programme numbers to various video input sources.

## Before you begin

- Check that the Full-Function side of the Remote Commander is visible.
- Locate Menu operation buttons on the Remote Commander. They are shaded in the illustration at the left.

## 1 Choose a language

- 1 Depress ① on the TV.

The TV will switch on. If the standby indicator on the TV is lit, press ① or a number button on the Remote Commander.

- 2 Press the MENU button.

The LANGUAGE menu appears. (See Fig. 1)



- 3 Select the language you want with ▲+ or ▼-, and then press OK.

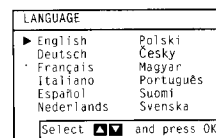


Fig. 1.



## 2 Display the Menu

Press the ◀ button.

The main menu appears. (See Fig. 2)

Now, choose one of the methods described overleaf:

**“Preset Channels Automatically”**

or

**“Preset Channels Manually”.**

It is recommended to choose

**“Preset Channels Automatically”.**

Then the channels are automatically stored as follows;

Programme 1	–	BBC1
Programme 2	–	BBC2
Programme 3	–	ITV
Programme 4	–	CH4 or S4C



Fig. 2.

With this method, you can preset all receivable channels at once.

**To stop automatic channel presetting:**  
Press  $\leftarrow$  on the Remote Commander.

**Notes:**

- After presetting the channels automatically, you can check which channels are stored on which programme positions. For details, see "Using the Programme Table" on page 16.

- You can sort the programme positions to have them appear on screen in the order you like. For details, see "Sorting Programme Positions" on page 10.

- Programme names are automatically taken from Teletext if available. If not please refer to page 11 "Captioning a station name" for further information.

### 3 Preset channels automatically

- 1 Select Preset with  $\Delta$ + or  $\nabla$ - and press OK.  
The PRESET menu appears. (See Fig. 3.)
- 2 Select Auto Programme with  $\Delta$ + or  $\nabla$ - and press OK.  
The AUTO PROGRAMME menu appears. (See Fig. 4.)
- 3 Press OK repeatedly until the first element of the "PROG" number is highlighted.
- 4 Select the programme (number button) from which you want to start presetting. Select the first element of the double-digit number with  $\Delta$ + or  $\nabla$ - or the number buttons (e.g. For "04", select "0" here) and press OK.  
The second element of "PROG" will be highlighted.
- 5 Select the second element of the double-digit number with  $\Delta$ + or  $\nabla$ - or the number buttons (e.g. For "04", select "4" here) (See Fig. 5.) and press OK.
- 6 The automatic channel presetting starts.

When presetting is finished, the preset menu reappears. All available channels are now stored on successive number buttons. (Press MENU to restore normal TV picture).

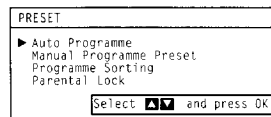


Fig. 3.

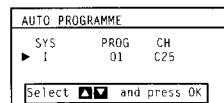


Fig. 4.



Fig. 5.

Use this method if there are only a few channels in your area to preset or if you want to preset channels one by one. You may also allocate programme numbers to various video input sources.

**If you have made a mistake:**  
Press  $\leftarrow$  to go back to the previous position.  
**To go back to main menu**  
Keep pressing  $\leftarrow$ .  
**To go back to the normal TV picture**  
Press MENU.

### 3 Preset channels manually

- 1 Select Preset with  $\Delta$ + or  $\nabla$ - and press OK.  
The PRESET menu appears. (See Fig. 6.)
- 2 Select Manual Programme Preset with  $\Delta$ + or  $\nabla$ - and press OK.  
The MANUAL PROGRAMME PRESET menu appears. (See Fig. 7.)

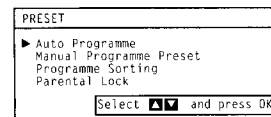


Fig. 6.

MANUAL PROGRAMME PRESET						
PROG	SYS	CH	SEARCH	LABEL	AFT	
1	I	C21	(off)	.....	(on)	
2	I	C34	(off)	.....	(on)	
3	I	C33	(off)	.....	(on)	
4	I	C45	(off)	.....	(on)	
5	I	C35	(off)	.....	(on)	
6	I	C44	(off)	.....	(on)	
7	I	C54	(off)	.....	(on)	
8	I	C30	(off)	.....	(on)	
9	I	C38	(off)	.....	(on)	
10	I	C59	(off)	.....	(on)	

Select [OK] and press OK

Fig. 7.

**To tune in a channel by frequency:**  
After selecting F in step 6, enter three digits using the number buttons.  
Press OK.

Please refer to  
"Television Channel  
Number Guide" on page  
24.

- 3 Using  $\Delta$ + or  $\nabla$ -, select the programme position (number button) to which you want to preset a channel, and press OK.
- 4 Keep pressing  $\nabla$ - to select programme numbers higher than 10.
- 5 Select, if necessary, a video input source (EXT) with  $\Delta$ + or  $\nabla$ -. Then press OK. The first element of the CH position will be highlighted. (See Fig. 8.)
- 6 Using  $\Delta$ + or  $\nabla$ -, select C (to preset a regular channel), or F (to tune in by frequency) and press OK. The first element of the "CH" number will be highlighted. If you have selected EXT in step 5, select the video input source with  $\Delta$ + or  $\nabla$ -. (See Fig. 9.)

There are two ways to preset channels. If you know the channel number, go to step "7-Manual",

or

if you don't know the channel number, go to step "7- Search".

## 7 Manual

- a Select the first element of the "CH" number with  $\Delta$ + /  $\nabla$ - or the number buttons and press OK.  
The second element of the "CH" number will be highlighted.
- b Select the second element of the number with  $\Delta$ + /  $\nabla$ - or the number buttons.  
The selected number appears. (See Fig. 10.)
- c Press OK  
The "SEARCH" position is highlighted and the selected channel is now stored. (See Fig. 11.)
- d Press OK until the cursor appears by the next programme position.
- e Repeat steps 3 to 7 to preset other channels.

## 7 Search

- a Press OK repeatedly until the colour of the SEARCH position changes.
- b Start searching for the channel with  $\Delta$ + (up) or  $\nabla$ - (down).  
The CH position changes colour. (See Fig. 12.)  
The CH number starts counting up or downwards. When a channel is found, it stops. (See Fig. 13.)
- c Press OK if you want to store this channel. If not, press  $\Delta$ + or  $\nabla$ - to continue channel searching.
- d Press OK until the cursor appears by the next programme position.
- e Repeat steps 3 to 7 to preset other channels.

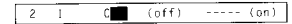


Fig.8.



Fig.9.



Fig.10.

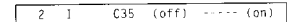


Fig.11.

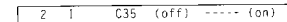


Fig.12.

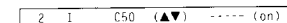
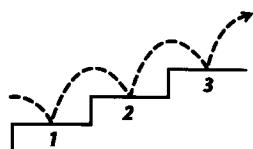


Fig.13.

**If you have made a mistake:**  
Press  $\leftarrow$  to go back to the previous position.  
**To go back to main menu**  
Keep pressing  $\leftarrow$ .  
**To go back to the normal TV picture**  
Press MENU.

# Additional Presetting Functions

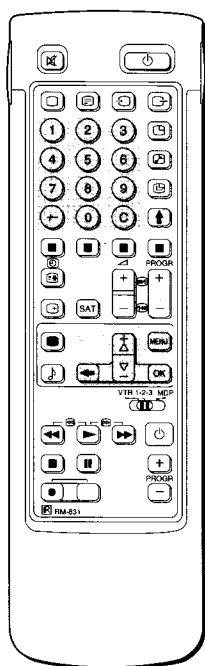


This section shows you additional presetting functions such as sorting or skipping programme positions, captioning a station name, manual fine-tuning, and using the parental lock.

## Before you begin

- Check that the Full Function side of the Remote Commander is visible
- Locate the Menu operation buttons.

## PROGRAMME SORTING



**For higher programme positions:**  
The display scrolls automatically.

**If you have made a mistake:**  
Press ◀ to go back to the previous position.

**To go back to main menu:**  
Keep pressing ◀.

**To go back to the normal TV picture:**  
Press MENU.

## Sorting Programme Positions

With this function, you can sort the programme positions to a preferable order.

- 1 Press MENU to display the main menu.
- 2 Select Preset with  $\Delta$  or  $\nabla$  and press OK. The PRESET menu appears.
- 3 Select Programme Sorting with  $\Delta$  or  $\nabla$  and press OK. The PROGRAMME SORTING menu appears. (See Fig. 14.)
- 4 Using  $\Delta$  or  $\nabla$ , select the programme position you want to move to another programme position and press OK. The colour of the selected position changes. (See Fig. 15.)
- 5 Using  $\Delta$  or  $\nabla$ , select the programme position to which you want to move the selected programme and press OK. Now the two programme positions have been sorted. (See Fig. 16.)
- 6 Repeat steps 4 and 5 to exchange other programme positions.

PROGRAMME SORTING					
PROG	CH	LABEL	PROG	CH	LABEL
0	AV1	VHS	8	C29	ITV
1	---	---	9	C35	C4
2	C52	BBC1	10	C02	---
3	C61	BBC2	11	C02	---
4	---	---	12	C02	---
5	VIDEO	8MM	13	C02	---
6	C02	---	14	C02	---
7	C02	---	15	C02	---

Fig. 14.

0	AV1	VHS	8	C29	ITV
---	-----	-----	---	-----	-----

Fig. 15.

PROGRAMME SORTING					
PROG	CH	LABEL	PROG	CH	LABEL
0	AV1	VHS	8	C02	---
1	---	---	9	C35	C4
2	C29	ITV	10	C02	---
3	C52	BBC1	11	C02	---
4	C61	BBC2	12	C02	---
5	---	---	13	C02	---
6	VIDEO	8MM	14	C02	---
7	C02	---	15	C02	---

Fig. 16.

## Tuning in a Channel Temporarily

You can tune in a channel temporarily, even when it has not been preset. Use the buttons on the Full-Function side of the Remote Commander.

- 1 Press C on the Remote Commander. The indication "C" appears on the screen.
- 2 Enter the double-digit channel number using the number buttons (e.g. for channel 4, first press 0, then 4). The channel appears. However, the channel will not be stored.





## MANUAL PROGRAMME PRESET

### Skipping Programme Positions

You can skip unused programme positions when selecting programmes with the PROGR +/- buttons. However, the skipped programmes may still be called up when you use the number buttons.

- 1 Press MENU to display the main menu.
- 2 Select Preset with  $\Delta$ + or  $\nabla$ - and press OK. The PRESET menu appears.
- 3 Select Manual Programme Preset with  $\Delta$ + or  $\nabla$ - and press OK. The MANUAL PROGRAMME PRESET menu appears. (See Fig. 17.)
- 4 Using  $\Delta$ + or  $\nabla$ -, select the programme position which you want to skip and press OK. The "SYSTEM" position changes colour.
- 5 Press  $\Delta$ + or  $\nabla$ - until --- appears in the SYSTEM position. (See Fig. 18.)
- 6 Press OK. (See Fig. 19.) When you select programmes using the PROGR +/- buttons, the programme position will be skipped.
- 7 Repeat steps 4 to 6 to skip other programme positions.

PROGR



MANUAL PROGRAMME PRESET					
PROG	SYS	CH	SEARCH	LABEL	AFT
1	I	C21	(off)	----	(on)
2	I	C24	(off)	----	(on)
3	I	C25	(off)	----	(on)
4	I	C27	(off)	----	(on)
5	I	C28	(off)	----	(on)
6	I	C22	(off)	----	(on)
7	I	C26	(off)	----	(on)
8	I	C25	(off)	----	(on)
9	I	C23	(off)	----	(on)
10	I	C29	(off)	----	(on)

Select  $\Delta$   $\nabla$  and press OK

Fig. 17.

3 ---

Fig. 18.

3 ---  
4 I

Fig. 19.

## MANUAL PROGRAMME PRESET

### Captioning a Station Name

Programme names are automatically taken from Teletext if available. However you can also "name" a channel or an input video source using up to five characters (letters or numbers) to be displayed on the TV screen (e.g. BBC1). Using this function, you can easily identify which channel or video source you are watching.

- 1 Press MENU to display the main menu.
- 2 Select Preset with  $\Delta$ + or  $\nabla$ - and press OK. The PRESET menu appears.
- 3 Select Manual Programme Preset with  $\Delta$ + or  $\nabla$ - and press OK. The MANUAL PROGRAMME PRESET menu appears. (See Fig. 20.)
- 4 Using  $\Delta$ + or  $\nabla$ -, select the programme position you want to caption and press OK repeatedly until the first element of the LABEL position is highlighted.
- 5 Select a letter or number with  $\Delta$ + or  $\nabla$ - and press OK. The next element will be highlighted. Select other characters in the same way. If you want to leave an element blank, select - and press OK. (See Fig. 21.)
- 6 After selecting all the characters, press OK repeatedly until the cursor appears by the next programme position (at the left margin). Now the caption you chose is stored. (See Fig. 22.)
- 7 Repeat steps 5 and 6 to caption names for other channels.

**If you have made a mistake:**  
Press  $\leftarrow$  to go back to the previous position.

**To go back to main menu:**  
Keep pressing  $\leftarrow$ .

**To go back to the normal TV picture:**  
Press MENU.

MANUAL PROGRAMME PRESET					
PROG	SYS	CH	SEARCH	LABEL	AFT
1	I	C21	(off)	----	(on)
2	I	C24	(off)	----	(on)
3	I	C25	(off)	----	(on)
4	I	C27	(off)	----	(on)
5	I	C28	(off)	----	(on)
6	I	C22	(off)	----	(on)
7	I	C26	(off)	----	(on)
8	I	C25	(off)	----	(on)
9	I	C23	(off)	----	(on)
10	I	C29	(off)	----	(on)

Select  $\Delta$   $\nabla$  and press OK

Fig. 20.

2 I C25 (off) S --- (on)

Fig. 21.

2 I C25 (off) SONY --- (on)

Fig. 22.

## MANUAL PROGRAMME PRESET

## Manual Fine-Tuning

Normally, the AFT (automatic fine-tuning) is already operating. However, if the picture is distorted, you can use the manual fine tuning function to obtain better picture reception.

- 1 Press MENU to display the main menu.
- 2 Select **Preset** with  $\Delta$ + or  $\nabla$ - and press OK. The **PRESET** menu appears.
- 3 Select **Manual Programme Preset** with  $\Delta$ + or  $\nabla$ - and press OK. The **MANUAL PROGRAMME PRESET** menu appears. (See Fig. 23.)
- 4 Using  $\Delta$ + or  $\nabla$ -, select the programme position corresponding to the channel which you want to manually fine-tune, and press OK repeatedly until the AFT position changes colour.
- 5 Fine-tune the channel with  $\Delta$ + or  $\nabla$ - so that you get the best TV reception. As you press the cursor buttons, the frequency changes from -15 to +15. (See Fig. 24.)
- 6 After fine tuning, press OK. The cursor appears beside the next programme position (at the left margin). (See Fig. 25.) Now the fine-tuned level is stored.
- 7 Repeat steps 4 to 6 to fine-tune other channels.

**To reactivate AFT (automatic fine tuning):**  
Repeat from the beginning and select "ON" in step 5.

MANUAL PROGRAMME PRESET				
PROG	SYS	CH	SEARCH	LABEL AFT
1	I	C21	(off)	---- (on)
2	I	C24	(off)	---- (on)
3	I	C25	(off)	---- (on)
4	I	C27	(off)	---- (on)
5	I	C28	(off)	---- (on)
6	I	C22	(off)	---- (on)
7	I	C26	(off)	---- (on)
8	I	C29	(off)	---- (on)
9	I	C23	(off)	---- (on)
10	I	C29	(off)	---- (on)

Fig. 23.

2	I	C35 (off)	----	(-3)
---	---	-----------	------	------

Fig. 24.

2	I	C40 (off)	----	(-3)
3	I	C45 (off)	----	(on)

Fig. 25.

## PARENTAL LOCK

## Parental Lock

You can prevent undesirable broadcasts from appearing on the screen. We suggest you use this function to prevent children from watching programmes which you consider unsuitable.

- 1 Press MENU to display the main menu.
- 2 Select **Preset** with  $\Delta$ + or  $\nabla$ - and press OK. The **PRESET** menu appears.
- 3 Select **Parental Lock** with  $\Delta$ + or  $\nabla$ - and press OK. The **PARENTAL LOCK** menu appears. (See Fig. 26.)
- 4 Using  $\Delta$ + or  $\nabla$ -, select the programme position you want to block and press OK. The CH and LABEL, of the selected programme number, change colour indicating that this programme is now blocked. (See Fig. 27.)
- 5 Repeat step 4 to block other programme positions.

**If you try to select a programme that has been blocked:**  
The message "LOCKED" appears on the blank TV screen.

### Cancelling blocking

- 1 On the **PARENTAL LOCK** menu, select the programme position you want to unblock with  $\Delta$ + or  $\nabla$ -.  
2 Press OK. The CH and LABEL change to normal colour indicating that the blocking has been cancelled.

PARENTAL LOCK			
PROG	CH	LABEL	PROG CH LABEL
0	AV1	VHS	8 C38
1	C25	BBC2	9 C39
2	C42	BBC1	10 C40
3	C26	C4	11 C41
4	C34	ITV	12 C42
5	C35	---	13 C43
6	C36	---	14 C44
7	C37	---	15 C45

Fig. 26.

PROG	CH	LABEL	PROG CH LABEL
0	AV1	VHS	
1	C22	BBC2	
2	C42	BBC1	
3	C26	C4	

Fig. 27.

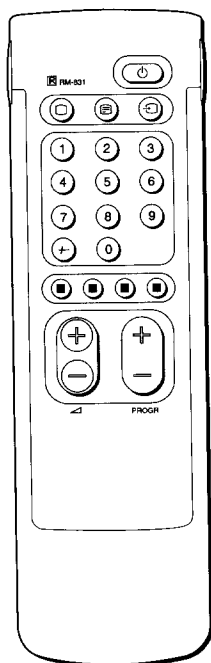
# Operating Instructions


Read this manual to become familiar with the TV and its features.


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## Watching the TV




If no picture appears when you depress  on the TV

and if the standby indicator on the TV is lit, the TV is in standby mode. Press  or one of the number buttons to switch it on.

This section explains the basic functions you use while watching TV. Most of the operations can be done using the simple side of the Remote Commander.

### Switching the TV on and off

#### Switching on


Depress  on the TV.

#### Switching off temporarily


Press  on the Remote Commander.

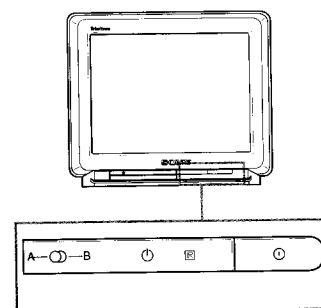
The TV enters standby mode and the standby indicator on the front of the TV lights up.

#### To switch on again

Press , PROGR +/-, or one of the number buttons on the Remote Commander.

#### Switching off completely

Depress  on the TV.



### Selecting TV Programmes

Press PROGR +/- or press number buttons.

#### To select a double-digit number

Press +/-, then the numbers.





For example, if you want to choose 23, press +/-, 2, and 3.

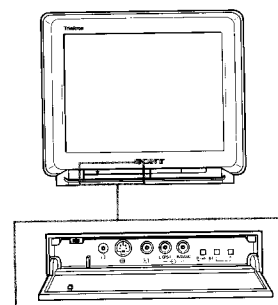
### Adjusting the Volume

Press  +/-.

### Operating the TV Using the Buttons on the TV

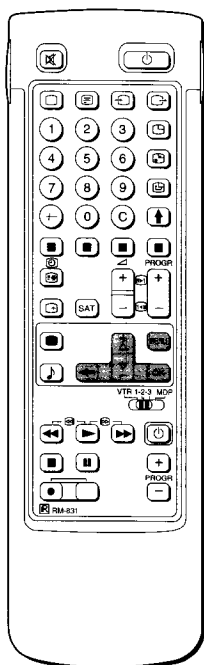
With the buttons on the TV, you can select programmes, adjust the volume, and select video input sources.

- Press  button repeatedly until the programme number,  (for volume), or  (for video input picture) appears. Then adjust with the +/- buttons.
- Press +/- buttons to switch on the TV from the standby mode.
- Press +/- simultaneously to reset picture and sound controls to the factory preset level (RESET symbol  is displayed).



For details of the teletext operation, refer to page 17.

For details of the video input picture, refer to page 21.



**To make the Programme Table disappear**  
Press MENU.

## Watching Teletext or Video Input

### Watching teletext

- Press to view the teletext.
- Press three number buttons to select a page.
- Press one of the coloured buttons for fastext operation.
- Press (PAGE +) or (PAGE -) for the next or preceeding page.
- To go back to the normal TV picture, press .

### Watching a video input picture

Press repeatedly until the desired video input appears. To go back to the normal TV picture, press .

## More Convenient Functions

Use the Full-Function side of the Remote Commander.

### Displaying the on screen indications

- Press once to display all the indications. They will disappear after some seconds.
- Press twice to have the programme number and label stay on screen. Press twice again to make indications disappear.

### Muting the sound.

Press .

To resume normal sound, press again.

### Displaying the time

Press . This function is available only when teletext is broadcast.

To make the time display disappear, press again.

### Displaying of the Programme Table

Press OK. A Programme Table will be displayed on the right side of the TV screen (See. Fig.28)

### Selecting of TV programmes

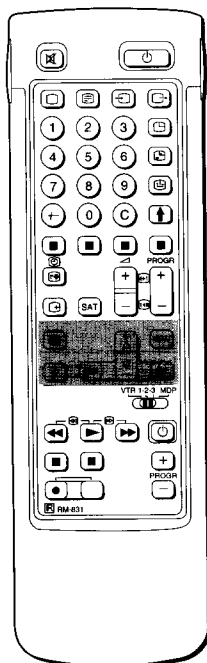
Press PROGR +/- or select the desired programme position using + or - and press OK.

▶	1	ARD
	2	SAT
	3	TV5
	4	CO2
	5	C15
	6	RTL
	7	SKY
	8	S34
	9	AV1
	10	MTV

Fig.28.

# Adjusting and Setting the TV Using the Menu

## PICTURE CONTROL SOUND CONTROL



### If you have made a mistake:

Press **←** to go back to the previous position.  
**To go back to the main menu:**

Keep pressing **←**.

**To go back to the normal TV picture:**  
Press **MENU**.

### Note:

HUE is only available for NTSC colour system.

### Note on LINE OUT:

The audio level and the dual sound mode output from the **↗** jack on the rear correspond to the **HEADPHONES VOLUME** and **DUAL SOUND** settings.

### When watching a video input source with stereo sound:

You can select **DUAL SOUND** to change the sound.

## Adjusting the Picture and Sound

Although the picture and sound are adjusted at the factory, you can adjust them to suit your own taste. In addition, you can change the aspect ratio of the TV display for wide screen effect. You can also select dual sound (bilingual) programmes when available or adjust the sound for listening with the headphones (**🎧**).

- 1 Press **🔊** (for picture) or **🎧** (for sound) on the Remote Commander.

or

Press **MENU** and select **Picture Control** or **Sound Control**, then press **OK**.

The **PICTURE CONTROL** or **SOUND CONTROL** menu appears. (See Fig. 29 or Fig. 30)

- 2 Using **△+** or **▽-**, select the item you want to adjust and press **OK**. The selected item changes colour. (See Fig. 31)
- 3 Adjust the setting with **△+** or **▽-** and press **OK**. The cursor appears beside the next item (at the left margin). (See Fig. 32)
- 4 Repeat steps 2 and 3 to adjust other items.

For the effect of each control, see the table below.

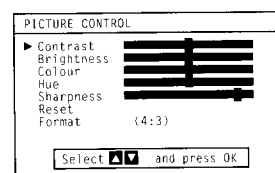


Fig. 29.

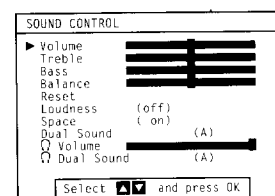


Fig. 30.



Fig. 31.

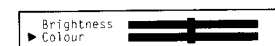


Fig. 32.






### Effect of each control

PICTURE CONTROL	Effect
Contrast	Less — — More
Brightness	Darker — — Brighter
Colour	Less — — More
Hue	Greenish — — Reddish
Sharpness	Softer — — Sharper
Reset	Resets picture to the factory preset levels.
Format	4 : 3 : Normal    16 : 9 : Wide screen effect
SOUND CONTROL	Effect
Volume	Less — — More
Treble	Less — — More
Bass	Less — — More
Balance	More left — — More right
Reset	Resets sound to the factory preset levels.
Loudness	off : Normal    on : When listening to low volume sound.
Space	off : Normal    on : Obtain acoustic sound effect.
Dual Sound	A : left channel    B : right channel    stereo mono
	The selected mode of the A-CD-B indicator on the TV lights up. (for NICAM broadcasts see next page)
Headphones:	
🎧 Volume	Less — — More
🎧 Dual Sound	A : left channel    B : right channel    STEREO MONO

### Selecting Nicam Broadcasts\*

This Sony TV has been designed to select Nicam broadcasts when available. Whenever a Nicam broadcast is received, "NICAM" appears briefly on the screen. When the Nicam programme ends, or you switch channels to one without Nicam, the A-CD-B indicators, on the TV will switch off.

Nicam programmes can be broadcast in two ways. You may select the sound you want to hear in either of these by first following the instructions explained on page 15.

Service Being Broadcast	Action	Effect	Indication on the TV A-CD-B
Stereo	Press $\Delta$ + or $\nabla$ -	Stereo Nicam (Mono 2-Channel) mono	 
<b>Press <math>\Delta</math>+ or <math>\nabla</math>- again to return to stereo Nicam (mono 2-channel)</b>			
Bilingual	press $\Delta$ + or $\nabla$ -	Channel A Nicam Channel B Nicam mono	  
<b>Press <math>\Delta</math>+ or <math>\nabla</math>- again to return to channel A Nicam</b>			

\* Depending on availability of service.

### PROGRAMME TABLE

To go back to the normal TV picture:  
Press MENU.

### Using the Programme Table

On this table, you can see which channel is preset to which programme position. You can also select programmes using this table.

- 1 From the main menu, select Programme Table with  $\Delta$ + or  $\nabla$ - and press OK.

The PROGRAMME TABLE menu appears. (See Fig. 33)

To scroll to higher programme numbers, press  $\nabla$ -.

- 2 To select a programme using this menu select the programme number with  $\Delta$ + or  $\nabla$ - and press OK.

The selected programme appears.

PROGRAMME TABLE			
PROG CH	LABEL	PROG CH	LABEL
1 C21	---	11 C38	---
2 C24	---	12 C40	---
3 C26	---	13 C41	---
4 C27	---	14 C43	---
5 C23	---	15 C54	---
6 C22	---	16 C55	---
7 C32	---	17 C56	---
8 C36	---	18 C57	---
9 C38	---	19 C48	---
10 C39	---	20 C46	---

Fig. 33.

### TIMER

To switch off the timer:  
Select "OFF" in step 3.

To check the remaining time:  
Press  $\square$ .

### Using the Sleep Timer

You can select a time period after which the TV automatically switches into standby mode.

- 1 From the main menu, select Timer with  $\Delta$ + or  $\nabla$ - and press OK.

The TIMER menu appears. (See Fig. 34.)

- 2 Press OK.  
The time period option changes colour.

- 3 Select the time period with  $\Delta$ + or  $\nabla$ -.

The time period (in minutes) changes as follows:

10→20→30→40→50→60→70→80→90

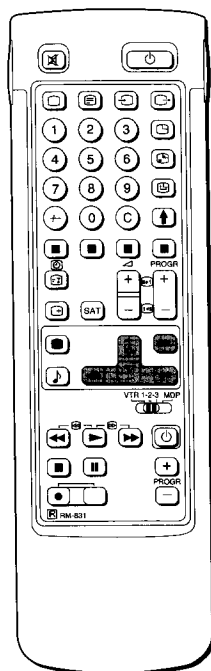
↑ ——— OFF ——— ↓

- 4 After selecting the time period, press OK.  
The cursor moves back to the left margin and the timer starts counting.  
One minute before the TV switches into standby mode, a message is displayed on the screen.

TIMER	
▶ Sleep Timer (off)	
Select $\Delta$ and press OK	

Fig. 34.

# Teletext



**Note:**

Teletext errors may occur if the broadcasting signals are weak.

**With the simple side of the Remote Commander:**

You can switch teletext on and off, operate Fastext, and directly select page numbers.

**Note:**

Fastext operation is only possible, if the TV station broadcasts Fastext signals.

TV stations broadcast an information service called Teletext via the TV channels. Teletext service allows you to receive various information pages such as weather reports or news at any time you want. For advanced teletext operation, use the buttons on the Full-Function side of the Remote Commander.

## Direct Access Functions

### *Switching Teletext on and off*

- 1 Select the TV channel which carries the teletext broadcast you want to watch.
- 2 Press to switch on teletext.  
A teletext page will be displayed (usually the index page). If there is no teletext broadcast, "No text available" is displayed on the information line at the top of the screen.

**To switch teletext off**

Press .

### *Selecting a teletext page*

**With direct page selection**

Use the number buttons to input the three digits of the chosen page number.

If you have made a mistake, type in any three digits. Then re-enter the correct page number.

**With page-catching**

- 1 Select a teletext page with a page overview (e.g. index page).
- 2 Press OK. Using or , select the desired page. "Page Catching" will be displayed on the information line. Press OK. The requested page will appear in a few seconds.

Press to resume normal teletext reception.

**Accessing next or preceding page**

Press (PAGE +) or (PAGE -).  
The next or preceding page appears.

### *Superimposing the teletext display on the TV programme*

- Press once in teletext mode or twice in TV mode.
- Press again to resume normal teletext reception.

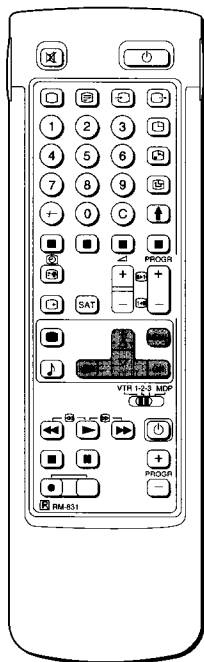
### *Preventing a teletext page from being updated*

- Press (HOLD). The HOLD symbol "" is displayed on the information line.
- Press to resume normal teletext reception.

### *Using Fastext*

With Fastext you can access pages with one key stroke. When a Fastext page is broadcast, a colour-coded menu will appear at the bottom of the screen. The colours of this menu correspond to the red, green, yellow and blue buttons on the Remote Commander.

Press the corresponding coloured button on the Remote Commander which corresponds to the colour-coded menu. The page will be displayed after some seconds.



**Note:**  
Some of the features may not be available depending on the Teletext service.

**Note on Subtitles:**  
If the subtitles are not broadcast on page 888, please select the subtitle page using the number buttons.

**To cancel the request:**  
Select "Subpage" and press OK.

## Using the Teletext Menu

This TV is provided with a menu-guided teletext system. When teletext is switched on, you can use the menu buttons to operate the teletext menu. Select the teletext menu functions in the following way:

- 1 Press MENU. The menu will be superimposed on the teletext display. (See Fig. 35)
- 2 Using  $\Delta$ + or  $\nabla$ -, select the teletext function you want and press OK. (See Fig. 36)

### USER PAGES/PRESET USER PAGES

See page 19 for information about presetting and operating the user pages.

### INDEX

The index will give you an overview of the contents of the teletext and the page numbers.

### TOP/BOTTOM/FULL

For convenient reading of a teletext page, you can enlarge the teletext display with the ability to scroll up and down the screen. After having selected the function, an information line Top/Bottom/Full will be displayed. (See Fig. 37)

Press  $\Delta$ + for Top to enlarge the upper half. For Bottom keep pressing  $\nabla$ -, to enlarge the lower half. Press OK for Full to resume the normal size.

Press  $\text{⏏}$  to resume normal teletext reception.

### TEXT CLEAR

After having selected the function, you can watch a TV programme while waiting for a requested teletext page to be captured (The symbol changes colour) (see Fig. 38).

Press  $\text{⏏}$  to view the requested page.

### SUBTITLES

Your teletext service will inform you if a TV programme is subtitled. After having selected the function the subtitles will be displayed.

### REVEAL

Sometimes pages contain concealed information, such as answers to a quiz. The reveal option lets you disclose the information. After having selected the function, an information line "REVEAL ON/OFF" will be displayed. (See Fig. 39)

Using  $\Delta$ + or  $\nabla$ -, select ON to reveal the information or OFF to conceal it again.

Press  $\text{⏏}$  to resume normal teletext reception.

### TIME PAGE

This function is not available.

### SUBPAGE

You may want to select a particular teletext page from several subpages which are rotated automatically. After having selected the function, an information line will be displayed.

To select the desired subpage, enter four digits using PROGR+/- or the number buttons. (e.g. enter 0002 for the second page of a sequence).

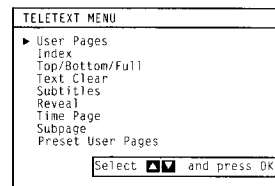


Fig. 35.

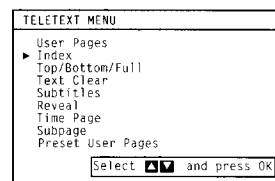


Fig. 36.

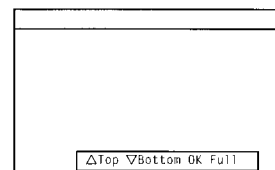


Fig. 37.

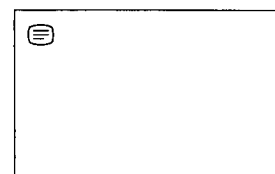


Fig. 38.

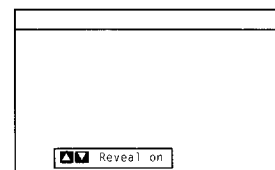


Fig. 39.



**If two broadcasting stations use the same Teletext:**  
You can preset one bank to 2 different programme positions.

## User Page Bank System

You can store up to 30 pages in the "Teletext page bank system". In this way you have quick access to the pages you watch frequently.

### Storing pages

There are 5 "banks" (A to E) for 5 teletext stations. In each bank you can store 6 preferred pages (P1 to P6).

- 1 Press (if Teletext is not on already) and MENU to show the TELETEXT MENU display.
- 2 Select PRESET USER PAGES with  $\Delta$ + or  $\nabla$ - and press OK.
- 3 Select the desired bank with  $\Delta$ + or  $\nabla$ - and press OK. The cursor will go to the first position (P1) of the preferred pages.
- 4 Input the three digits of your first preferred page with the number buttons and press OK.  
The cursor will go to the second position.
- 5 Repeat step 4 for the other 5 page numbers you want to preset. If you do not want to preset all 6 page numbers available, press OK without inserting any number. After having finished the presetting press OK repeatedly until the cursor appears besides the next bank at the left margin.
- 6 Select Allocate Bank with  $\Delta$ + or  $\nabla$ - and press OK.
- 7 Select the programme position for which you have preset pages with  $\Delta$ + or  $\nabla$ - and press OK. (See Fig. 40)
- 8 Select the desired bank with  $\Delta$ + or  $\nabla$ - (Banks A to E are available) and press OK.
- 9 Repeat steps 3 to 8 for the other 4 banks available.

### Displaying User Pages

- 1 Select MENU.
- 2 Select User Pages with  $\Delta$ + or  $\nabla$ - and press OK.  
A table of the stored preferred pages will be displayed. (See Fig. 41)
- 3 Select the desired page with  $\Delta$ + or  $\nabla$ - and press OK. The page will be displayed after some seconds.

You can use the coloured buttons on the Remote Commander to have quick access to the first four User pages. Page 1 corresponds to the red button, P 2 to the green one, P 3 to the yellow one and P 4 to the blue button.

To select the desired page press the respective coloured button while you are in TV mode. Now the Page number of this teletext page will appear in white at the top in the left-handed corner of the TV screen. When the page number changes colour, the page is available. Press the coloured button again to display the page.

PRESET USER PAGES						
BANK	P1	P2	P3	P4	P5	P6
A	300	255	456	234	200	179
B	200	120	301	303	550	345
C	100	220	300	444		
D	128	321	255			
E	400	238	240	118	127	
Allocate Bank						
PROG	LABL	BANK	PROG	LABL	BANK	
00	VHS	-	04	MIV	D	
01	BBC1	A	05	SKY	B	
02	BBC2	C	06	!TV	C	

Select and press OK

Fig. 40.

USER PAGES - BANK B	
▶	PAGE 300
	PAGE 200
	PAGE 203
	PAGE 500
	PAGE 234
	PAGE 159

Select and press OK


Fig. 41.

# Connecting and Operating Optional Equipment

## Connecting Optional Equipment

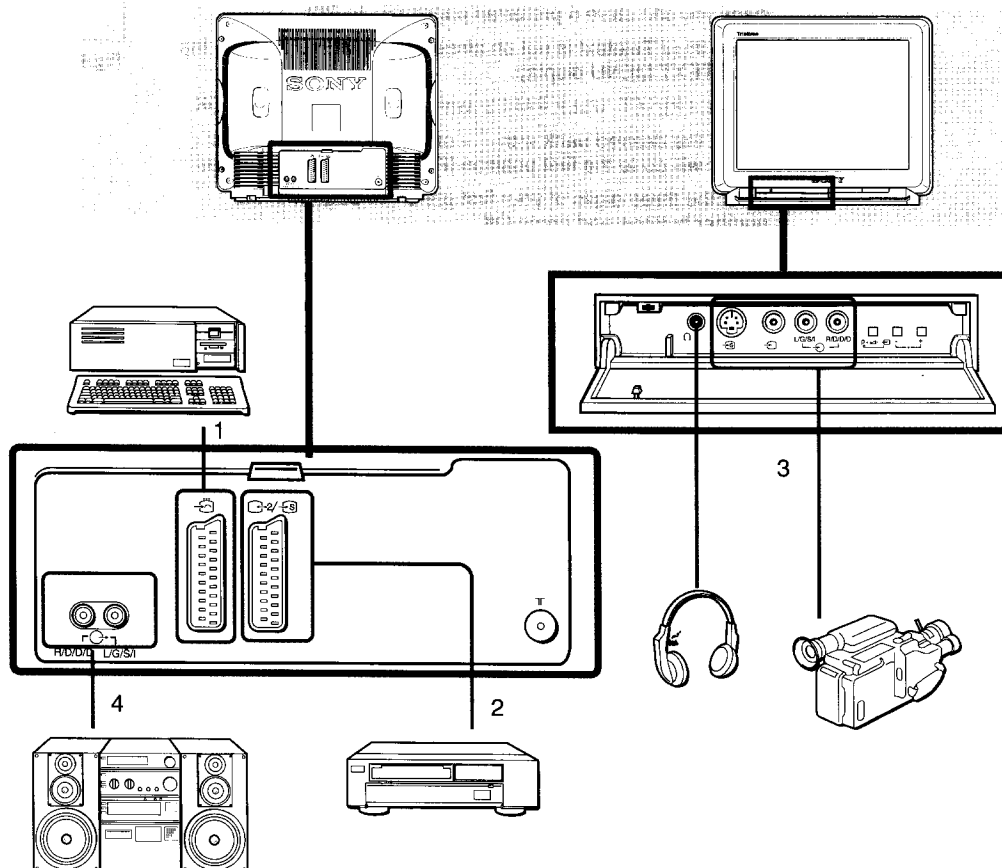
You can connect optional audio-video equipment to this TV such as VTRs, video disc players, and stereo systems.

### To connect a VTR using the terminal:

Connect the aerial output of the VTR to the aerial terminal  of the TV.

We recommend that you tune in the signal to programme number "0". For details see "Preset Channels Manually" on page 8.


**If the picture or the sound is distorted:**  
Move the VTR away from the TV.



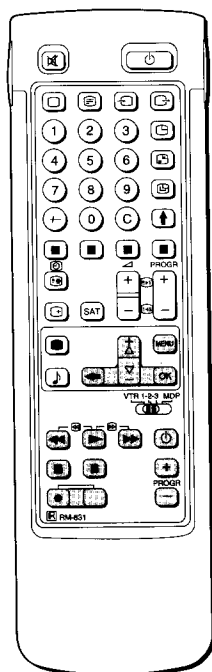
### S video input (Y/C input):

Video signals may be separated into Y (luminance or brightness) and C (chrominance) signals. Separating the Y and C signals prevents them from interfering with one another, and therefore improves picture quality (especially luminance). This TV is equipped with 2 S Video input jacks through which these separated signals can be input directly.

### When connecting a monaural VTR:

Connect only the white  jack to both the TV and VTR.

Acceptable input signal	Available output signal
1 Normal audio/video and RGB signal	Video/audio from TV tuner
2 Normal audio/video and S video signal	Video/audio from selected source
3 Normal audio/video and S video signal	No outputs
4 No inputs	Audio signal (variable)



**When recording**  
When you use the ● (record) button, make sure to press this button and the one to the right of it simultaneously.

### Checking and selecting the input and output sources using the menu

You can display the menu to see which input sources are selected for the TV screen, and which output source is selected. You can also select them on the menu display.

- 1 Select Video Connection with  $\Delta$ + or  $\nabla$ - and press OK. The VIDEO CONNECTION menu appears. (See Fig. 42)

You can see which source is selected for the TV and for the output. If you want to select the input and output on this menu, go on to the next step.

- 2 Select TV Screen (input source for the TV screen) or output (output source) with  $\Delta$ + or  $\nabla$ - and press OK. One of the source items changes colour. (See Fig. 43)

- 3 Select the desired source with  $\Delta$ + or  $\nabla$ -. (See Fig. 44)

For details about each source, see the table on page 21.

- 4 Press OK.

The selected source is confirmed, and the cursor appears. (See Fig. 45)

- 5 Repeat steps 2 to 4 to select the source for other inputs or outputs.

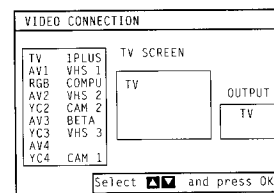


Fig. 42.

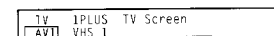


Fig. 43.

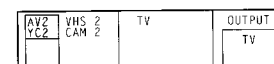


Fig. 44.

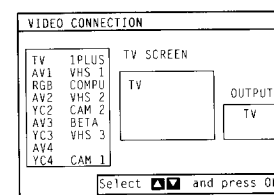


Fig. 45.

## Remote Control of Other Sony Equipment

You can use the TV Remote Commander to control most Sony remote-controlled video equipment such as: Beta, 8mm or VHS VTRs or video disc players.

### Tuning the Remote Commander to the equipment

- 1 Set the VTR 1/2/3 MDP selector according to the equipment you want to control:

VTR 1: Beta or ED Beta VTR

VTR 2: 8mm VTR

VTR 3: VHS VTR

MDP: Video disc player

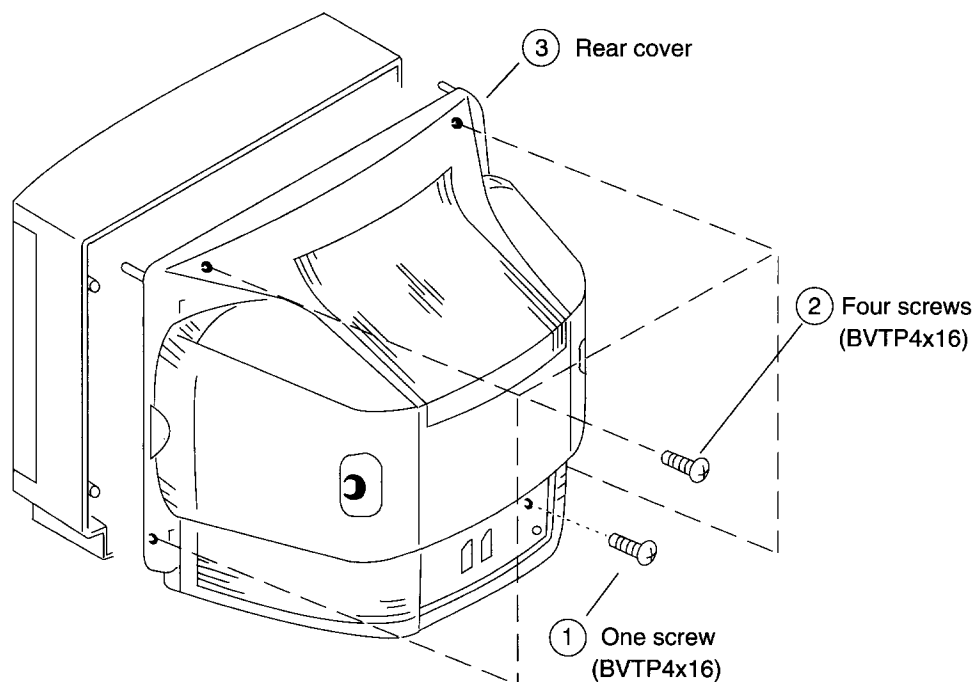
- 2 Use the buttons indicated in the illustration to operate the additional equipment.

If your video equipment is furnished with a COMMAND MODE selector: set this selector to the same position as the VTR 1/2/3 MDP selector on the TV Remote Commander.

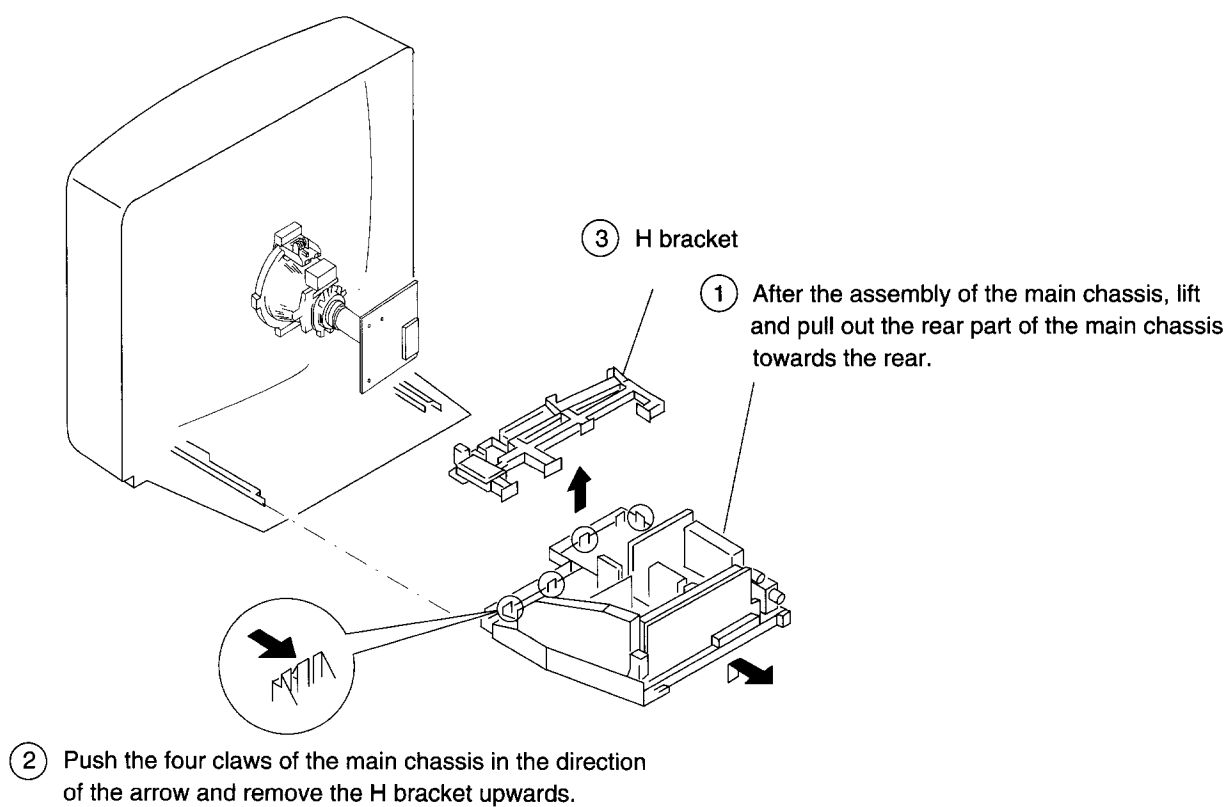
If the equipment does not have a certain function, the corresponding button on the Remote Commander will not operate.

## SECTION 2 DISASSEMBLY

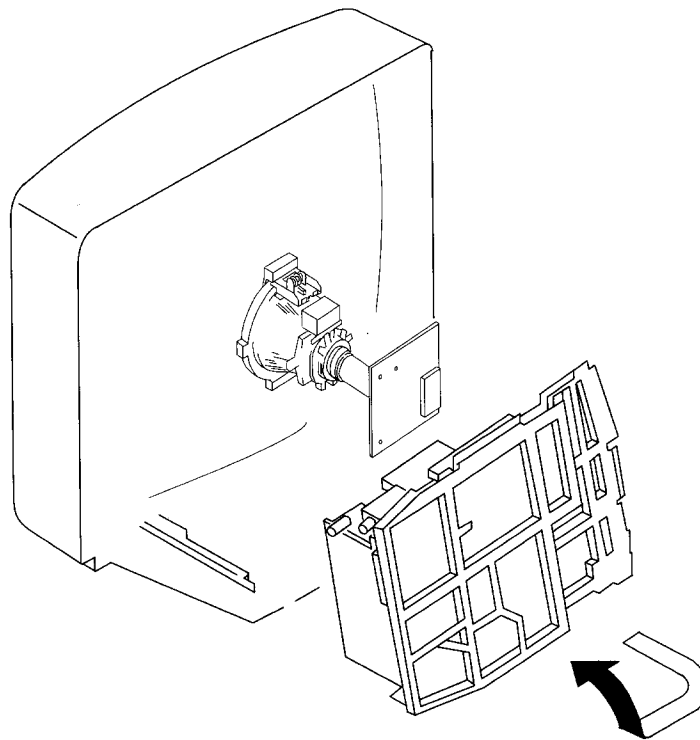
### 2-1. REAR COVER REMOVAL



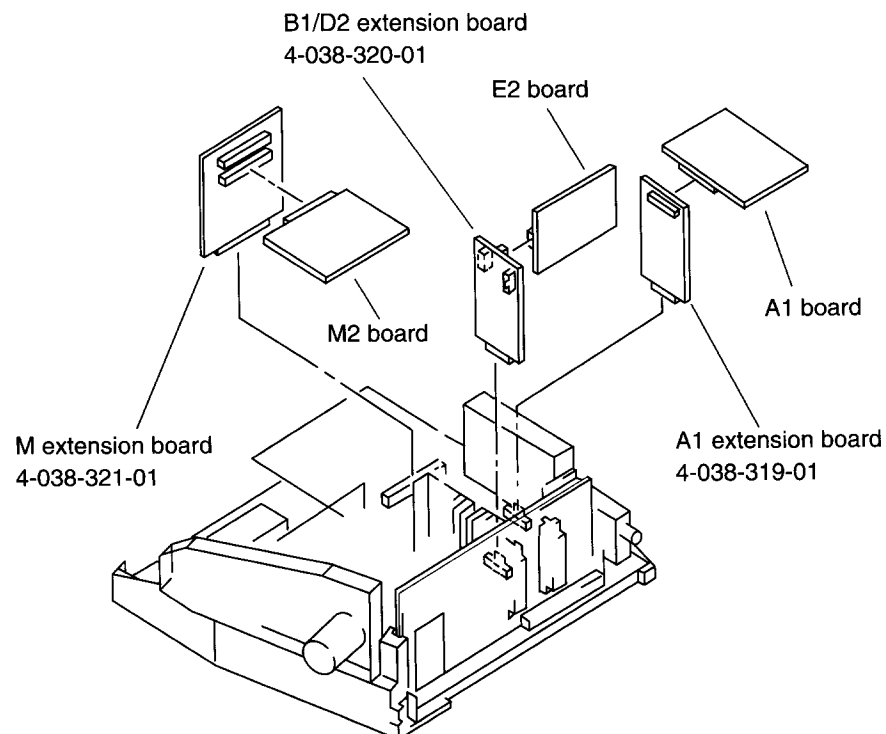
### 2-2. CHASSIS ASSY REMOVAL



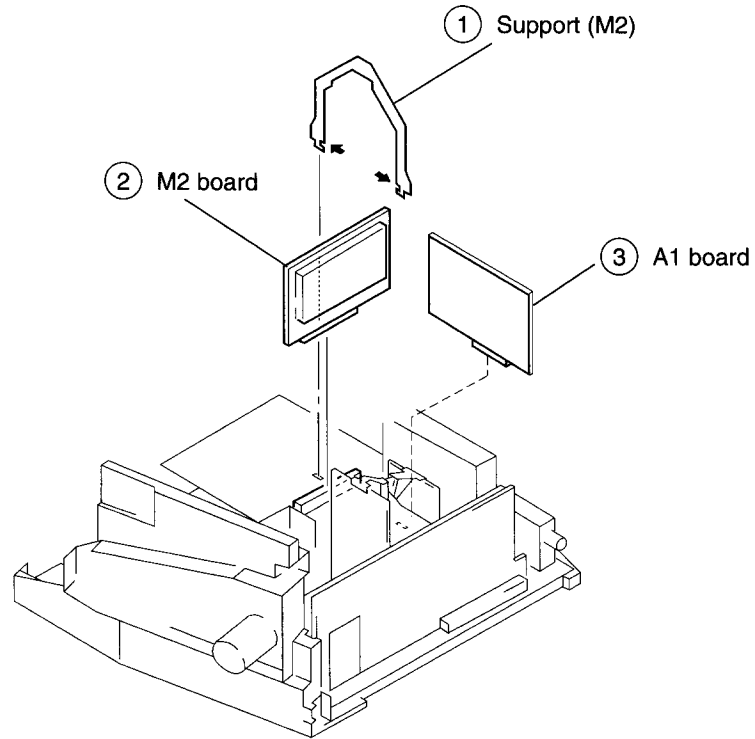
## 2-3. SERVICE POSITION



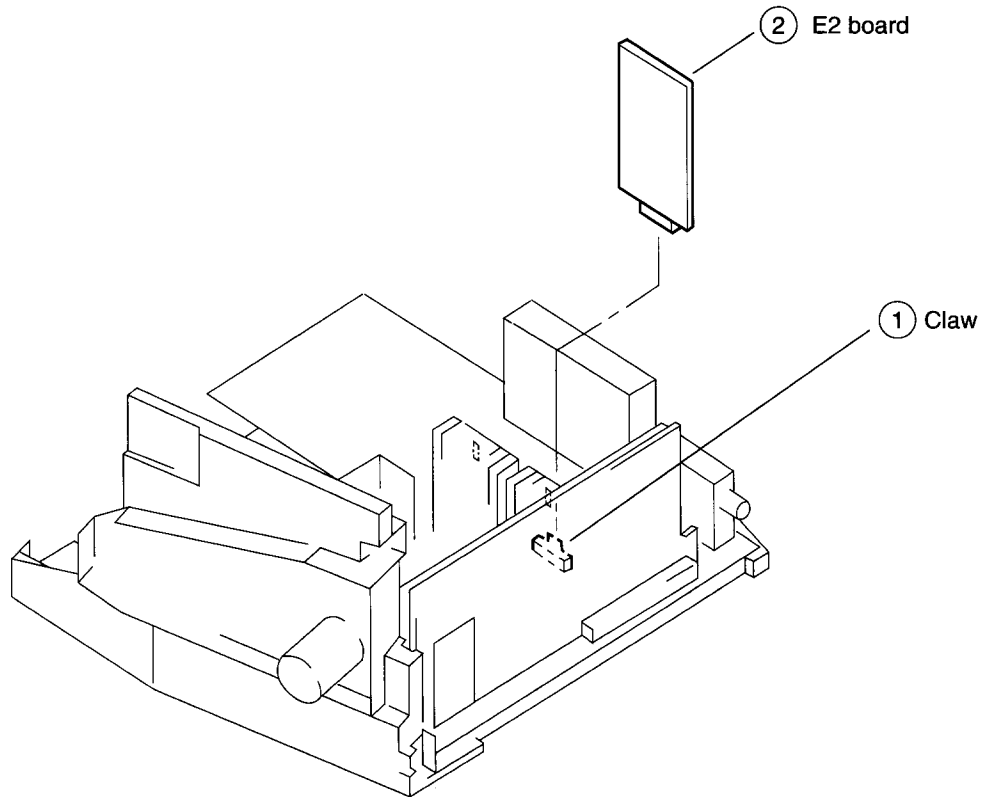
## 2-4. EXTENSION BOARDS



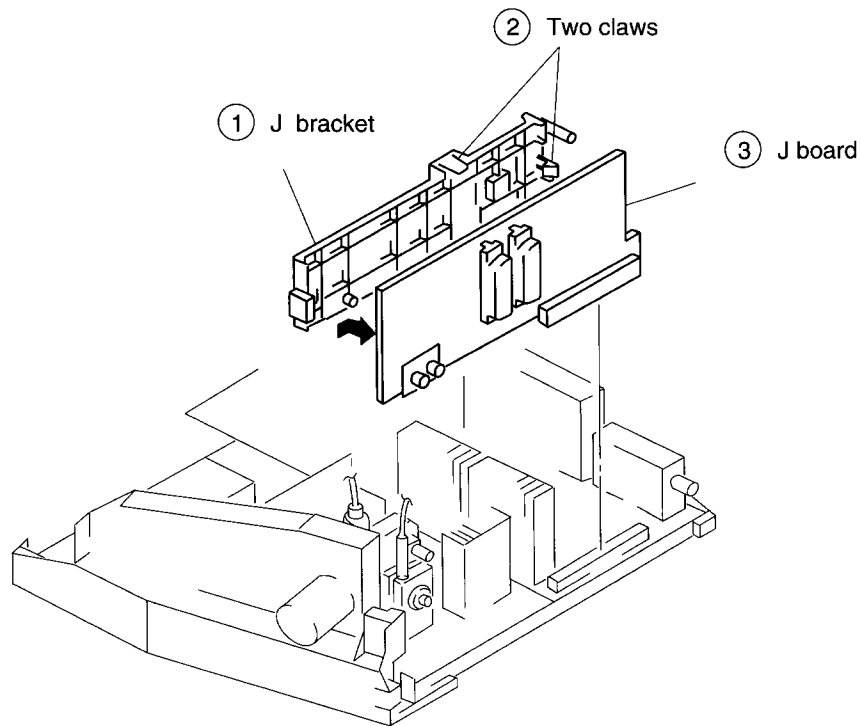
## 2-5. M2 AND A1 BOARD REMOVAL



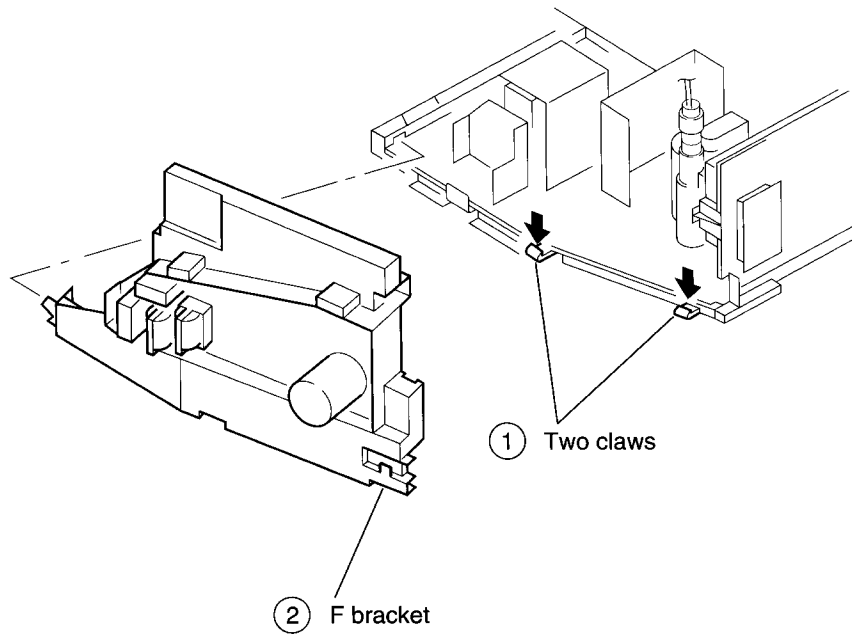
## 2-6. E2 BOARD REMOVAL



## 2-7. J BOARD REMOVAL

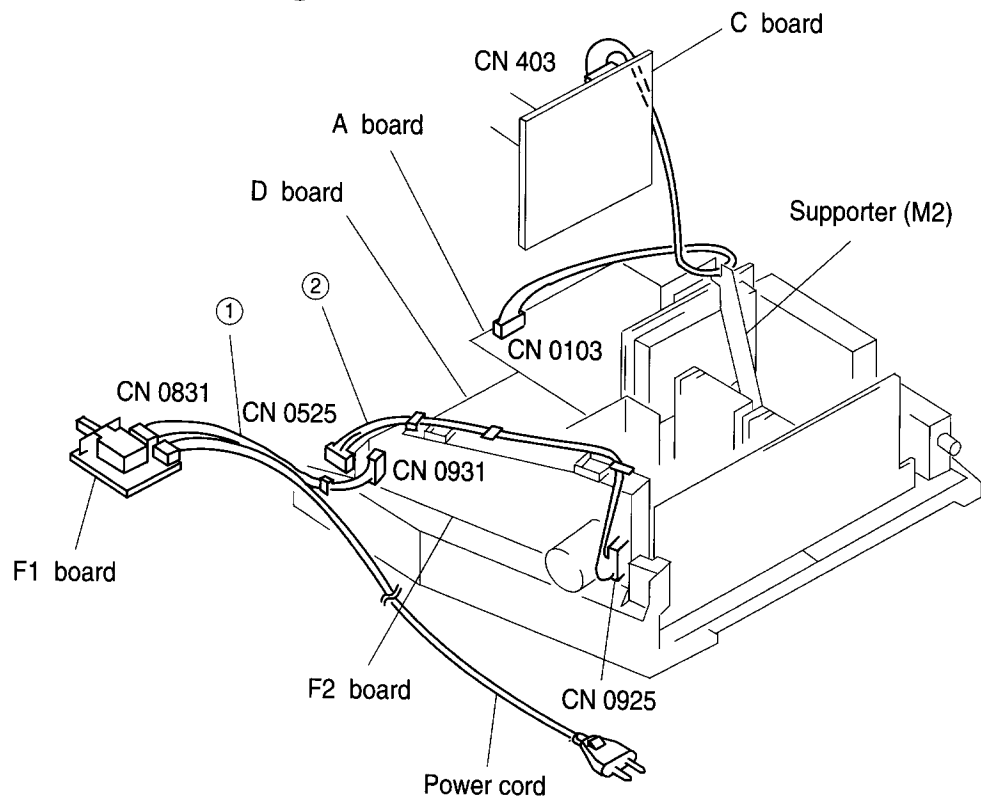


## 2-8. F BRACKET REMOVAL

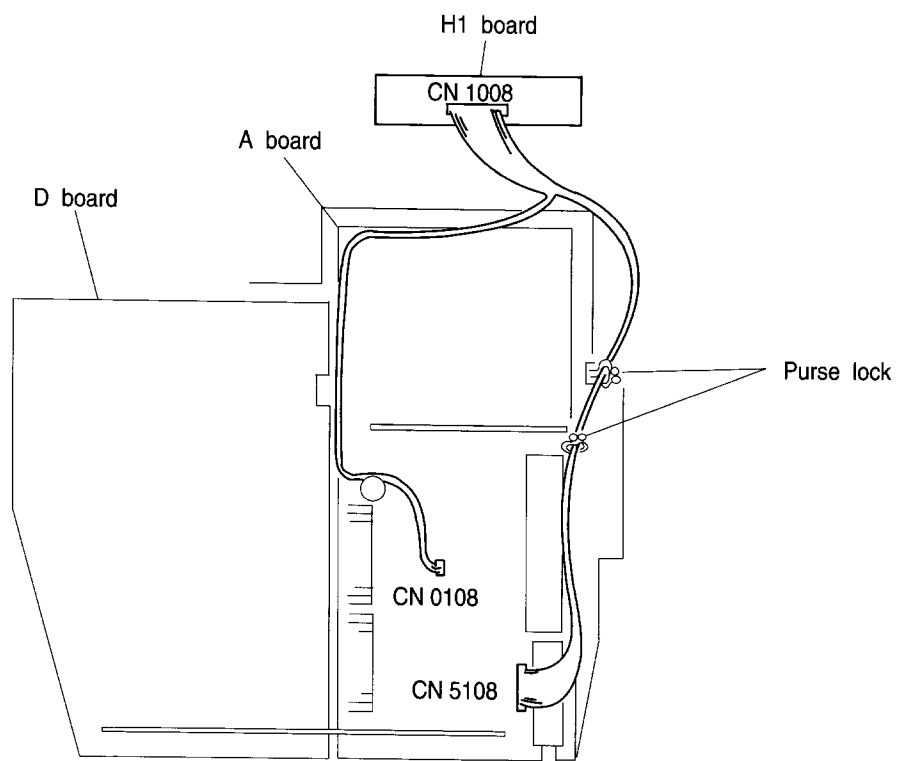


## 2-9-1. WIRE DRESSING

\* Keep distance between ① and ②

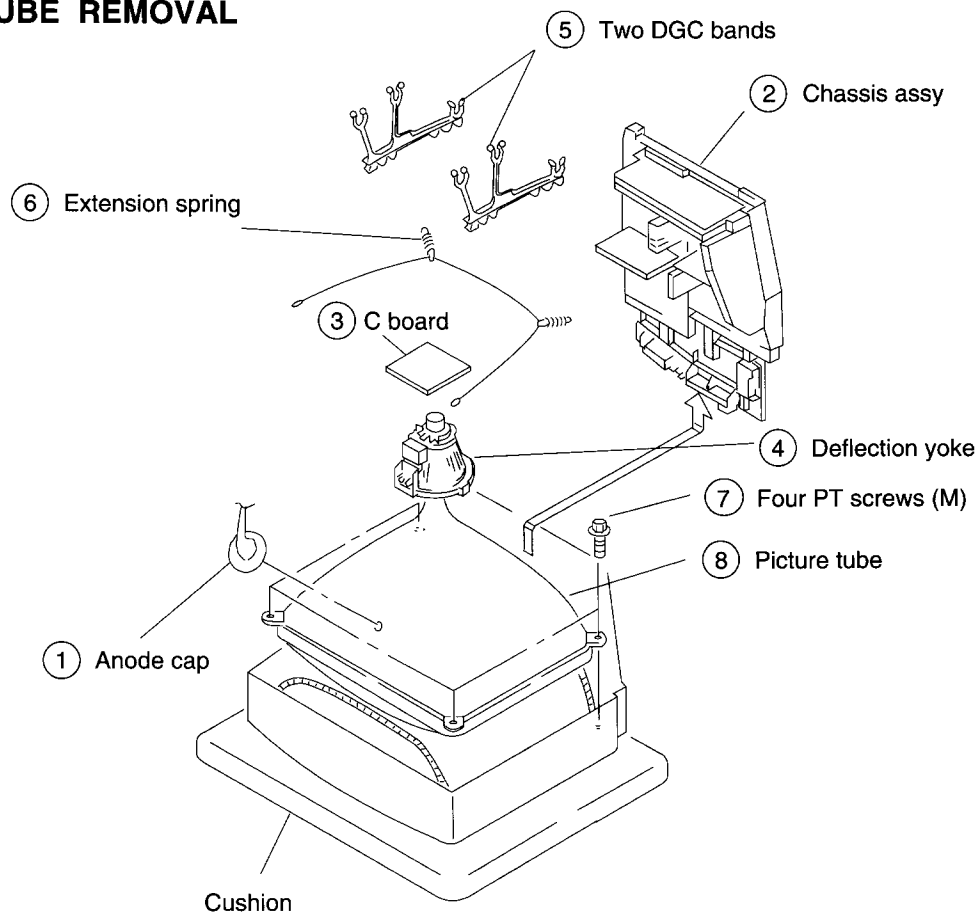


## 2-9-2. WIRE DRESSING





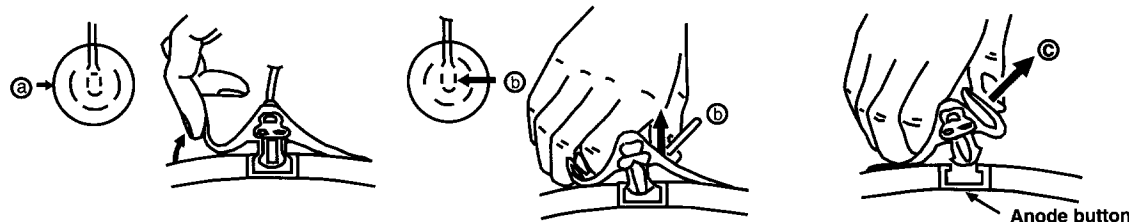
## 2-10. PICTURE TUBE REMOVAL



### • REMOVAL OF ANODE-CAP

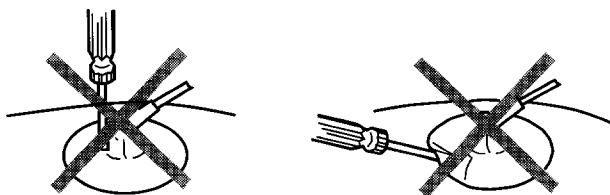
**Note:** Short circuit the anode of the picture tube and the anode cap to the metal chassis, CRT shield or carbon paint on the CRT, after removing the anode.

#### \* REMOVING PROCEDURES.



#### • HOW TO HANDLE AN ANODE-CAP

- ① Don't damage the surface of anode-cap with sharp shaped material !
- ② Don't press the rubber hardly not to hurt inside of anode-caps !  
A metal fitting called as shatter-hook terminal is built into the rubber.
- ③ Don't turn the foot of rubber over hardly !  
The shatter-hook terminal will stick out or damage the rubber.



## SECTION 3

### SET-UP ADJUSTMENTS

- The following adjustments should be made when a complete realignment is required or a new picture tube is installed.
- These adjustments should be performed with rated power supply voltage unless otherwise noted. The controls and switch below should be set as follows unless otherwise noted :

⊙ CONTRAST control ..... 80%(or Normal by commander)

⊙ BRIGHTNESS control ..... 50%

Perform the adjustments in order as follows:

#### Preparation:

- Set the side of the unit with the PICTURE TUBE so that it faces east or west in order to reduce the influence of external magnetic force.
- Turn the power switch for the unit ON and erase the magnetic force using a degausser..

#### 3-1. BEAM LANDING

Demagnetize with a degausser

1. Input a raster signal with the pattern generator.
 

CONTRAST	}	normal
BRIGHTNESS		
2. Turn the raster signal of the pattern generator to red.
3. Move the deflection yoke backward, and adjust with the purity control so that red is in the center and blue and green are at the sides evenly. (Fig.3-1 - 3-3)
4. Move the deflection yoke forward, and adjust so that the entire screen becomes red. (Fig.3-1)
5. Switch over the raster signal to blue and blue and confirm the condition.
6. When the position of the deflection yoke is determined, tighten it with a deflection yoke mounting screw.
7. When landing at the corner is not right, adjust by using the disk magnets. (Fig.3-4)

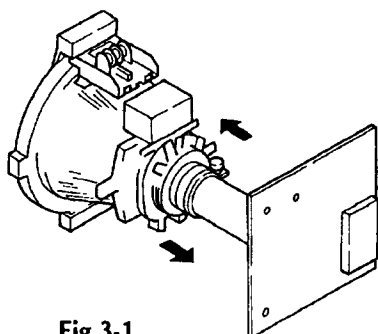


Fig.3-1

1. Beam Landing
2. Convergence
3. Focus
4. Screen (G 2) and White Balance

**Note:** Test Equipment Required.

1. Color bar/Pattern Generator
2. Degausser
3. DC Power Supply
4. Digital multimeter
5. Oscilloscope

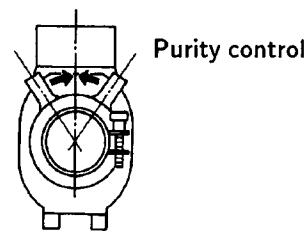


Fig.3-2

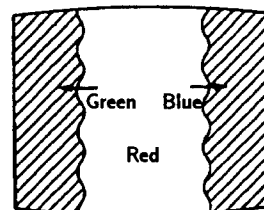


Fig.3-3

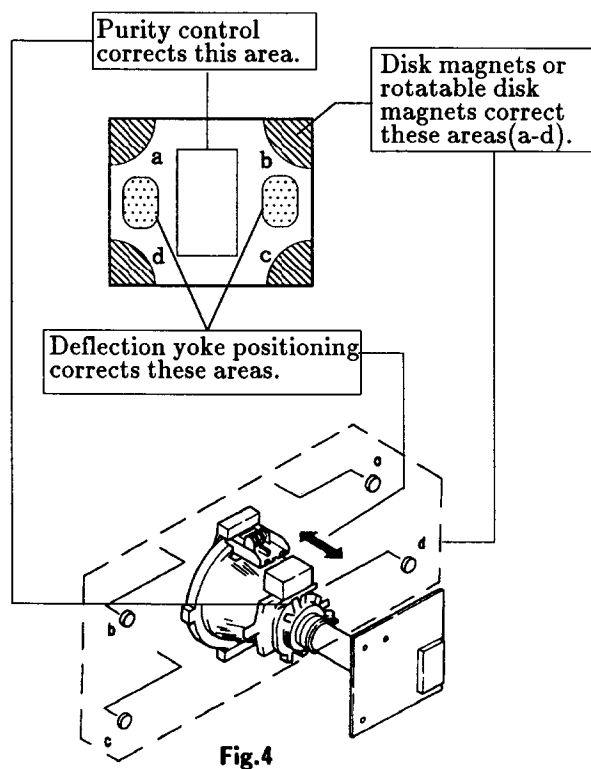


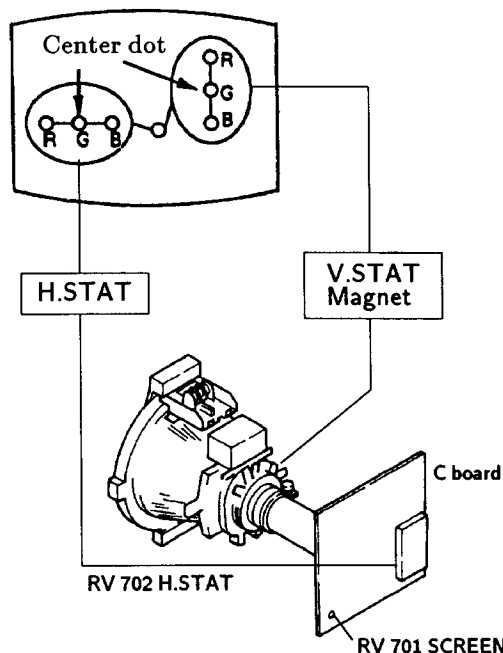
Fig.4

### 3-2. CONVERGENCE

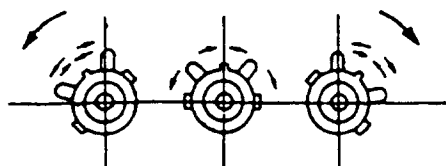
#### Preparation:

- Before starting, perform FOCUS, H.SIZE, and V. SIZE adjustments.
- Set BRIGHTNESS control to minimum.
- Feed in the dot pattern.

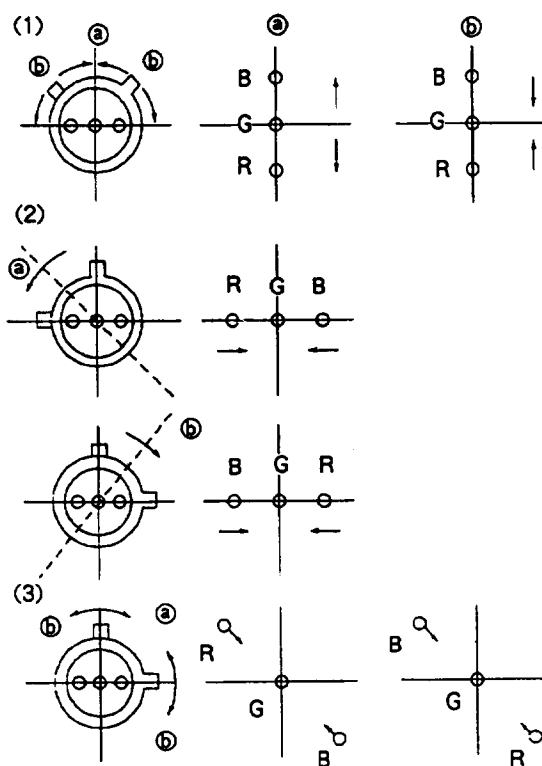
#### (1) Horizontal and Vertical Static Convergence



1. Adjust H.STAT VR to converge red, green and blue dots the in the center of the screen.(Horizontal movement)
  2. Adjust V. STAT magnet to converge red, green and blue dots in the center of the screen. (Vertical movement)
  3. If the red, green and blue dots do not converge on the center of screen with H.STAT VR, perform horizontal convergence adjustment using H.STAT VR and V.STAT magnet as shown below. (In this case, H.STAT VR and V.STAT magnet effect each other.)
- Tilt the V.STAT magnet and adjust static convergence to open or close the V.STAT magnet.



4. When the V.STAT magnet is moved in the direction of arrow (a) and (b), red, green and blue dots move as shown below.

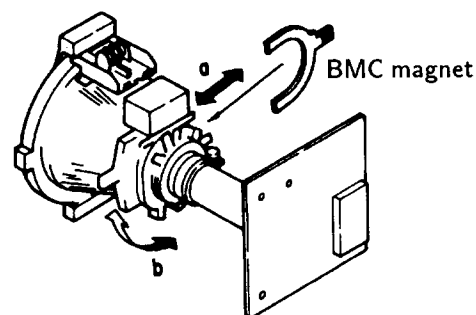


If the red and blue dot do not converge with green dots, perform following steps.

Move BMC magnet (a) to correct insufficient H.static convergence.

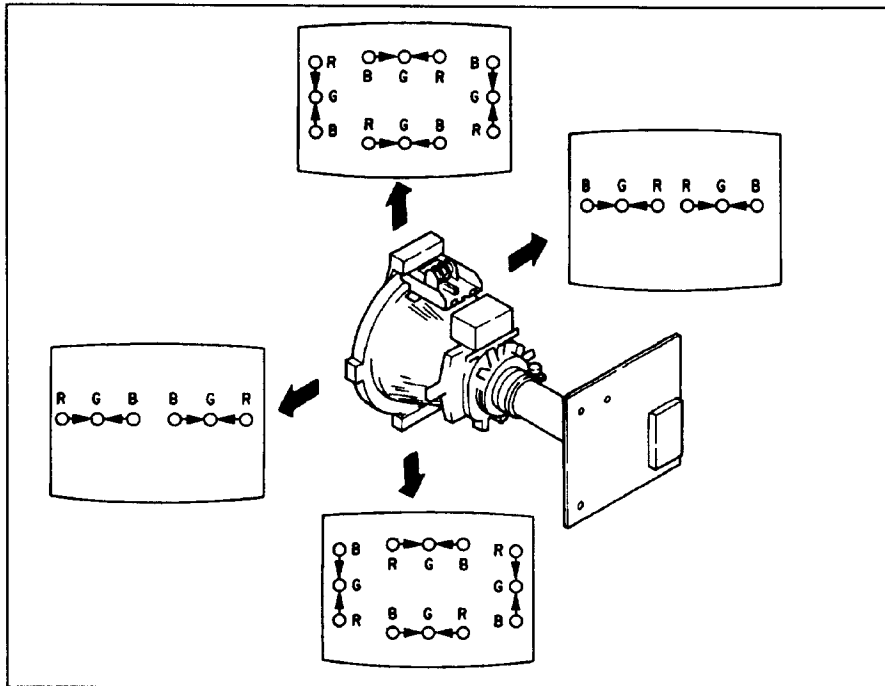
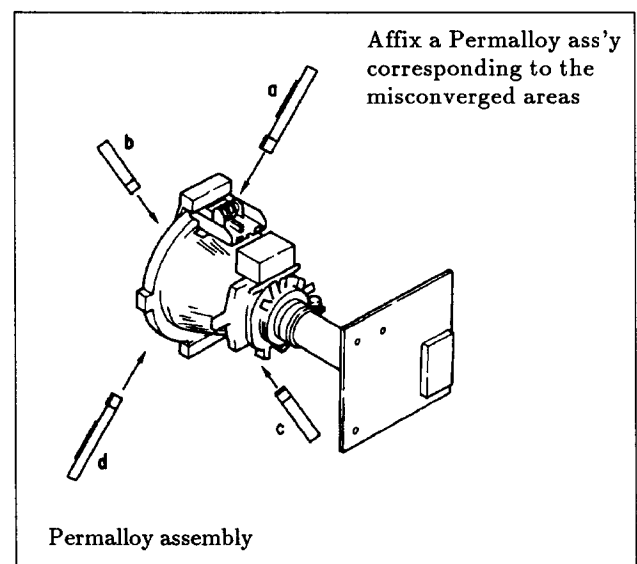
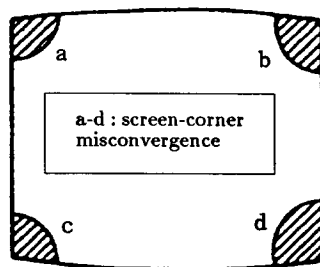
Rotate BMC magnet (b) to correct insufficient V.static convergence.

In either case, repeat Beam Landing Adjustment.



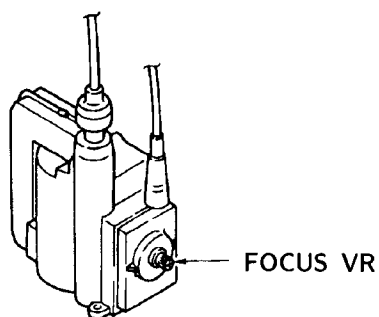
**(2) Dynamic Convergence Adjustment****Preparation:**

- Before starting perform Horizontal and Vertical static convergence Adjustment.
1. Slightly loosen deflection yoke screw.
  2. Remove deflection yoke spacers.
  3. Move the deflection yoke for best convergence as shown below.
  4. Tighten the deflection yoke screw.
  5. Install the deflection yoke spacers.

**(3) Screen-corner Convergence**

### 3-3. FOCUS

Adjust FOCUS so that the whole screen is in best focus.



### 3-4. WHITE BALANCE







#### Screen G2 Setting

1. Input the dot signal from the pattern generator.
2. Set the picture brightness control to its lowest level.
3. Apply 180V DC to the R,G, and B cathodes with an external power supply.
4. While watching the picture, adjust G 2 control RV 701 (Screen) to the point just before the return lines disappear.

#### White balance adjustment

1. Receive all-white signal.
2. Enter into service mode. (Refer to the section 4 "Electrical Adjustment" to how to enter service mode.)
3. Select CXA 1587 on menu.

09	SUB BRIGHT	ADJ.
10	SUB HUE	7
11	VM LEVEL	2
12	NR LEVEL	0
13	ABL MODE	0
14	G-DRIVE	ADJ.
15	B-DRIVE	ADJ.
16	G-AUTO CUT OFF	ADJ.
17	B-AUTO CUT OFF	ADJ.
18	R-MANUAL CUT OFF	ADJ.
19	G-MANUAL CUT OFF	ADJ.
20	B-MANUAL CUT OFF	ADJ.

4. Set picture to MAX.
5. Adjust G-DRIVE B-DRIVE with ,  buttons so that the white balance becomes optimum.
6. Press  button to write the data for each item.
7. Set picture to MIN.
8. Adjust G-AUTO CUT OFF, B-AUTO CUT OFF, R-MANUAL CUT OFF, G-MANUAL CUT OFF and B-MANUAL CUT OFF with ,  buttons so that the white balance becomes optimum.
9. Press  button to write the data for each item.

## SECTION 4

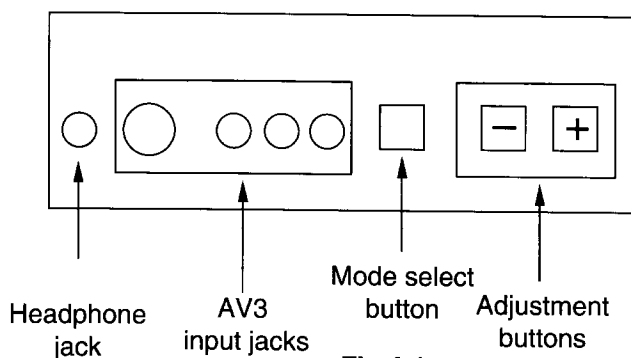
### CIRCUIT ADJUSTMENTS

#### 4-1. ELECTRICAL ADJUSTMENTS

Service adjustment to this model can be performed with the supplied remote commander RM-831

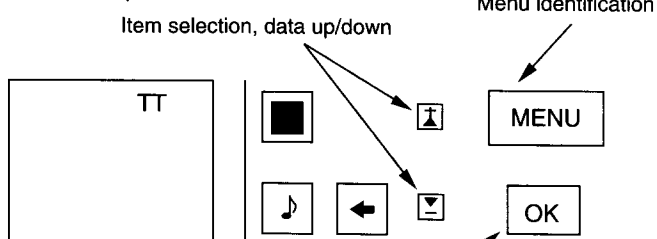
##### HOW TO ENTER INTO SERVICE MODE

1. Turn on the main power switch of the set while pressing any two buttons on the front panel.



2. "TT" will appear at the upper right corner of the screen.

Command operation in service mode.



**Fig.4-3**

Selection completion,  
data written-in

3. Press the **MENU** button on the remote commander to obtain the menu on the screen.

MAIN MENU
Programme Table
Video Connection
Picture Control
Sound Control
Timer
Preset
Language
> DEMO
Select < > and press OK

**Fig.4-4**

4. Press the **▲** and **▼** buttons on the remote commander and move > to DEMO.
5. Press **OK** button to proceed to the next menu.
6. The menu of fig. 4-5 will appear on the screen. Select the **DEVICE** corresponding to the adjustment item from the table on the next page.

DEVICES
Initialize
> CXA1587
CXD2018
TDA9145
CXA1526
TDA6612
CX7948A
P/P service
Select < > and press OK

**Fig. 4-5**

7. If adjustment item is CXA1587, press the **▼** button and move > to CXA1587.

##### CXA1587

Item No	Adjustment item	Data Amount
01	PICTURE	53
02	COLOR	31
03	BRIGHT	31
04	HUE	31
05	SHARPNESS	12
06	RGB PICTURE	7
07	SUB CONTRAST	ADJ.
08	SUB COLOR	ADJ.
> 09	SUB BRIGHT	ADJ.
10	SUB HUE	8
11	VM LEVEL	2
12	NR LEVEL	0
13	ABL MODE	0
14	G-DRIVE	ADJ.
15	B-DRIVE	ADJ.

8. Press **OK** button to get the next selection menu.
9. Press **▼** button and move > to the adjustment item and press **OK** button.
10. Press **▲** and **▼** buttons to change the data in order to comply with each standard.
11. Press **OK** button to write data.
12. Turn off the power to quit service mode when adjustments are completed.

## CXA1587

Item No	Adjustment item.	Data Amount
01	PICTURE	53
02	COLOR	31
03	BRIGHT	31
04	HUE	31
05	SHARPNESS	12
06	RGB PICTURE	7
07	SUB CONTRAST	ADJ.
08	SUB COLOR	ADJ.
09	SUB BRIGHT	ADJ.
10	SUB HUE	8
11	VM LEVEL	2
12	NR LEVEL	0
13	ABL MODE	0
14	G-DRIVE	ADJ.
15	B-DRIVE	ADJ.
16	G-AUTO CUT OFF	ADJ.
17	B-AUTO CUT OFF	ADJ.
18	R-MANUAL CUT OFF	ADJ.
19	G-MANUAL CUT OFF	ADJ.
20	B-MANUAL CUT OFF	ADJ.
21	GAMMA LEVEL	8
22	DC TRANSFER RATIO	3
23	DYNAMIC PICTURE	2
24	Y FILTER ADJ	ADJ.
25	Y DELAY TIME	15
26	Y DELAY SWITCH 1	0
27	Y DELAY SWITCH 2	1
28	SHARPNESS LIMIT	ON
29	TRAP	OFF
30	H SHIFT	36
31	DA TEST	ON
32	PRE/OVER	12
33	SUB FOCUS	2
34	SUB SHARPNESS	3
35	R MUTE	OFF
36	G MUTE	OFF
37	B MUTE	OFF
38	AGING 1 WHT	OFF
39	AGING 2 BLK	ON
40	AKB OFF	ON
41	INHIBIT RGB	ON
42	FORCED RGB	OFF
43	V/2 V	OFF
44	AXIS	PAL
45	HUE OFF	OFF
46	V EXTENSION	OFF
47	AFC 1	1
48	AFC 2	0
49	AFC	OFF
50	REF. POSITION	0

## CXD2018

Item No	Adjustment item.	Data Amount
01	V SIZE	ADJ.
02	V SHIFT	ADJ.
03	S CORRECTION	ADJ.
04	V LINEARITY	ADJ.
05	H SIZE	ADJ.
06	PIN AMP	ADJ.
07	TILT	ADJ.
08	UPPER CORNER	ADJ.
09	LOWER CORNER	ADJ.
10	V BOW	ADJ.
11	ANGLE	ADJ.
12	HV COMP. V	12
13	HV COMP. H	8
14	FRAME SHIFT	OFF
15	FREE RUN 60 Hz	OFF
16	SYSTEM 60 Hz	OFF
17	ASPECT WIDE	OFF
18	DOUBLE SCAN	OFF
19	INTERLACE	ON
20	H SHIFT	26
21	N/S CORRECTION	ADJ.

Typical On Screen Display based values when receiving PAL  
Phillips pattern.

TDA6612	ADJ
Stereo-Separation	(31 )

Should be adjusted twice, once for 4 : 3 and once for 16 : 9  
mode.

**Y FILTER ADJUSTMENT**

1. Input a PAL RED pattern.
2. Connect an oscilloscope to pin ① of CN0403 (R OUT) on C board.
3. Enter into service mode and press 3,8.
4. Adjust data by  $\Delta$  or  $\nabla$  to minimize the chroma element at CN0403 pin ①.

**SUB BRIGHTNESS ADJUSTMENT**

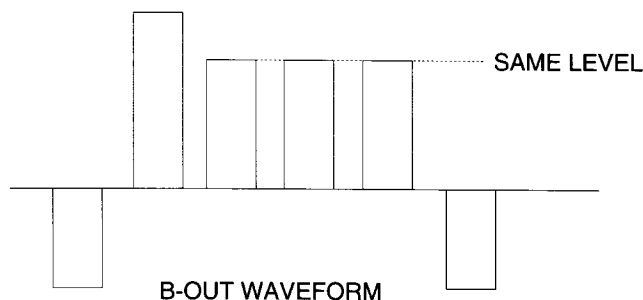
1. Input a Phillips pattern.
2. Enter into service mode and press 23.
3. Adjust data so that 0-IRE of grey scale and CUT-OFF 20-IRE are only slightly visible on screen.

**SUB CONTRAST ADJUSTMENT**

1. Input a video that contains a small 100% area on a Black Background.
2. Enter into service mode and press 01 to have PIC max followed by 21.
3. Connect oscilloscope to pin ① of CN0403 (R OUT) and adjust data to obtain 2.5Vp-p.

**SUB COLOR ADJUSTMENT**

1. Input a PAL color bar signal.
2. Connect an oscilloscope to pin ③ of CN0403 (B OUT) on the C board.
3. Enter into service mode and press 22 of CXA1587, 8 SUB COLOR.
4. Adjust data so that the right sides of the waveform are set to the same level.

**STEREO-SEPARATION ADJUSTMENT**

1. Input a 1kHz stereo signal to the L-ch and a 400Hz stereo signal to the R-ch.
2. Enter into service mode and press 19.
3. Adjust data so that sound is not detected in the Right-ch and the Left-ch.

**DRIVE AND CUT-OFF**

See direct test mode list attached and refer to sub brightness or such for adjustment method.

**BELL FILTER ADJUSTMENT L3, L2**

1. Input a Phillips signal.
2. Connect an oscilloscope to pin ⑮ of IC1 on the E2 board.
3. Adjust L3 (Bell Filter) to obtain a flat chroma/smooth signal see (Fig 4-6).
4. Connect an oscilloscope to pin ② of IC1 on the E2 board.
5. Adjust L2 (B-Y) to obtain symmetrical transient between (R-Y)  $\rightarrow$  (B-Y) and (B-Y)  $\rightarrow$  (R-Y) see (Fig 4-7).
6. Connect oscilloscope to pin ⑤ of CN2.
7. Confirm ID flip-flop output signal is as indicated in (Fig 4-8).

Fig. 4-6 < MONITOR PIN ⑮ of IC1 Connect

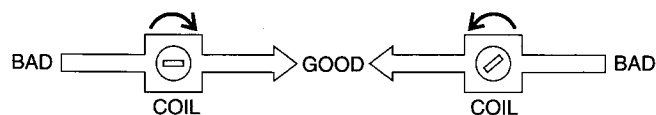


Fig. 4-7 < MONITOR PIN ② of IC1 Connect

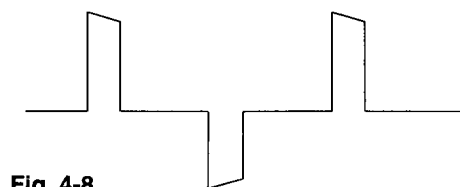
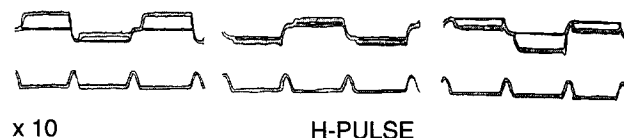


Fig. 4-8

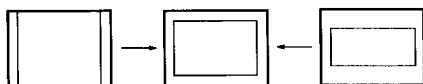
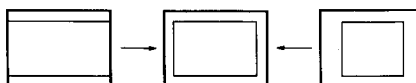
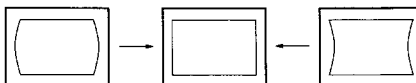
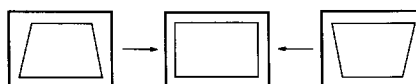
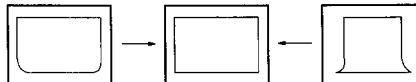
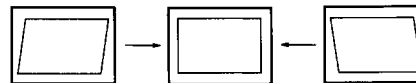
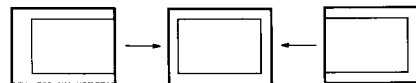


**DEFLECTION SYSTEM ADJUSTMENT**



1. Enter into service mode and select CXD2018.
2. Select and adjust each item in order to obtain the optimum image.

**CXD2018**

Item No	Adjustment item.	Data Amount
01	V SIZE	ADJ.
02	V SHIFT	ADJ.
03	S CORRECTION	ADJ.
04	V LINEARITY	ADJ.
05	H SIZE	ADJ.
06	PIN AMP	ADJ.
07	TILT	ADJ.
08	UPPER CORNER	ADJ.
09	LOWER CORNER	ADJ.
10	V BOW	ADJ.
11	ANGLE	ADJ.
12	HV COMP. V	12
13	HV COMP. H	8
14	FRAME SHIFT	OFF
15	FREE RUN 60 Hz	OFF
16	SYSTEM 60 Hz	OFF
17	ASPECT WIDE	OFF
18	DOUBLE SCAN	OFF
19	NON INTERLACE	ON
20	H SHIFT	26
21	N/S CORRECTION	ADJ.

**V SIZE****V SHIFT****S CORRECTION****V LINEARITY****H SIZE****PIN AMP****TILT****UPPER CORNER PIN****LOWER CORNER PIN****V BOW****ANGLE****H SHIFT****N/S CORRECTION**

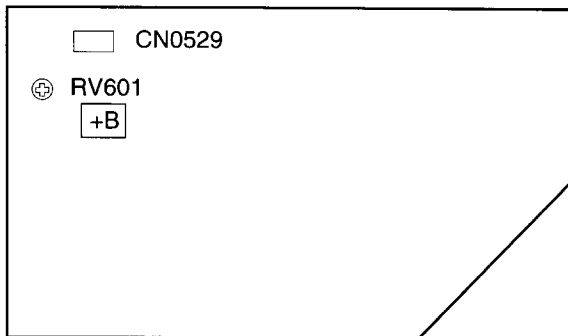
3. Press **OK** button to write data.

If the menu display prevents accurate adjustment, press  to clear, to resume, press  once again.

## 4-2. VOLUME ELECTRICAL ADJUSTMENTS

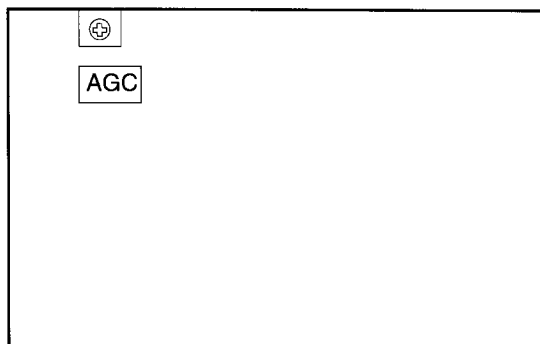
### +B (+135V) ADJUSTMENT (RV601)

D BOARD



1. Switch on the power to the TV set.
2. Connect a digital multi-meter to pin ① of CN0529 on D board.
3. Adjust RV601 on D board to  $+135V \pm 0.5V$ .

### AGC ADJUSTMENT (IF BLOCK)



1. Receive an off-air signal.
2. Adjust the AGC VR so that there is no snow noise or cross-modulation visible on the screen.
3. Change the receiving channel and confirm status.

### 4-3. TEST MODE 2 :

Is available by pressing Test button twice, OSD "TT" appears. The functions described below are available by pressing the two numbers. To release the Test Mode 2, press 0 twice, or switch the TV into Stand-by Mode.

00	switch Test Mode 2 off
01	picture maximum
02	picture minimum
03	Volume 35%
04	Volume 50%
05	Volume 65%
06	Volume 80%
07	Ageing Condition (Volume min., Picture max., Brightness max., Ageing 2 Mode of CXA1587, TDA2595 is locked to CXA1587 via PIN 34 of $\mu$ -Con.)
08	Shipping Condition (Analog Values are RESET due to factory setting, Prog 1 is selected, TT Mode is switched off)
09	dummy
10	Tenth entry is deleted
11	Balance
12	Hue
13	Display of Software Version and TV set configuration
14	Adjustment of N/S Correction
15	Read factory setting from NVM Reads Volume, Balance, Treble, Bass, Brightness, Contrast, Hue, Sharpness, Colour values from ROM to the actual used values (Last Power Memory)
16	Save actual used values as RESET values Memorize actual used values Balance, Treble, Bass, Hue, Sharpness at RESET position in NVM.
17	Preset Level for AV Sources
18	dummy
19	Stereo Separation
20	Tenth entry is deleted
21	Sub Contrast
22	Sub Colour
23	Sub Brightness
24-29	dummy

30	Tenth entry is deleted
31	Green Drive
32	Blue Drive
33	Green Cut Off (Auto Cut Off)
34	Blue Cut Off (Auto Cut Off)
35	Red Cut Off (Manual Cut Off) (Auto Cut Off is switched off)
36	Green Cut Off (Manual Cut Off) (Auto Cut Off is switched off)
37	Blue Cut Off (Manual Cut Off) (Auto Cut Off is switched off)
38	Y-Filter adjustment (Trap is switched off and TDA9145 is switched in forced NTSC Mode)
39	dummy
40	Tenth entry is deleted
41	Default setting of CXA1587 (Only available in Prog 99)
42	Default setting of CXA2018 (Only available in Prog 99)
43	Default setting of CXA1526 (Only available in Prog 99)
44	(all Port High) Not yet
45	(all Port High) Not yet
46	IR Channel Presetting Mode The channel presetting can be done by a Special IR Transmitter
47-48	dummy
49	Erase the NVM Testbyte (this byte detects already stored NVM's) After selecting this function, switch TV Off and On -> the NVM will be preset by $\mu$ -Controller. (Not the channel data)

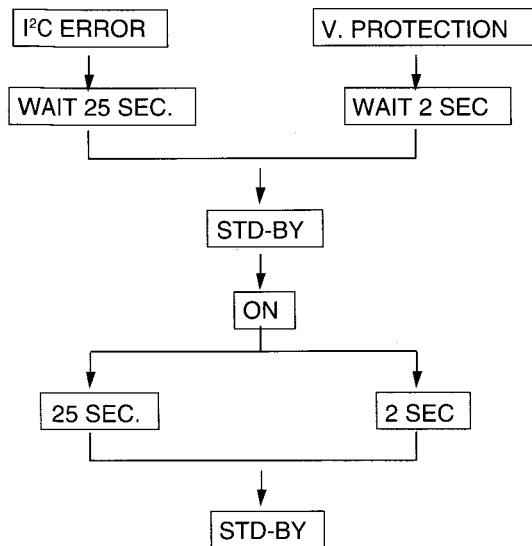
**Note:** For No 35, 36, 37 and 38 special pressing (AKB, forced Color Mode, Trap) is selected. After selecting a new Test Mode Number, the AKB is switched ON, the Trap is switched ON and TDA9145 is switched to Auto Search Mode.

In Test Mode 2 the Menu display is switchable by the Speaker-Off button.

#### 4-4. ERROR MESSAGE

Self diagnostic system operates as follows.

- When the microprocessor is unable to receive an acknowledgement back from the device, the LED starts flashing according to the table below.



In the case of more than one error in parallel, the blinking error shows max priority according to the error number (e.g. error 2 and error 5 appear together, then LED,s show error 2).

**ERROR TABLE**

ERROR COUNT	IC TYPE	FUNCTION
1	I I C BUS	SDA low
2	X24C16	EPROM
4	TDA9145	Colour decoder
5	CXA1587	RGB/Jungle
6	TDA6612	Sound processor
7	CXD2018	V deflection
8	CXA1545	AV switch
11	SDA5248	Text
13		V protection

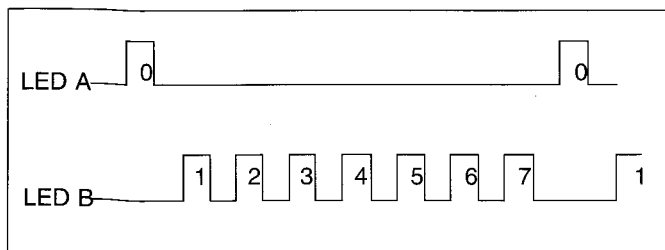
Stand By LED blinking

No 1K return

#### 4-5. ERROR I²C BUS DIAGNOSTIC SYSTEM FOR AE2-B CHASSIS.

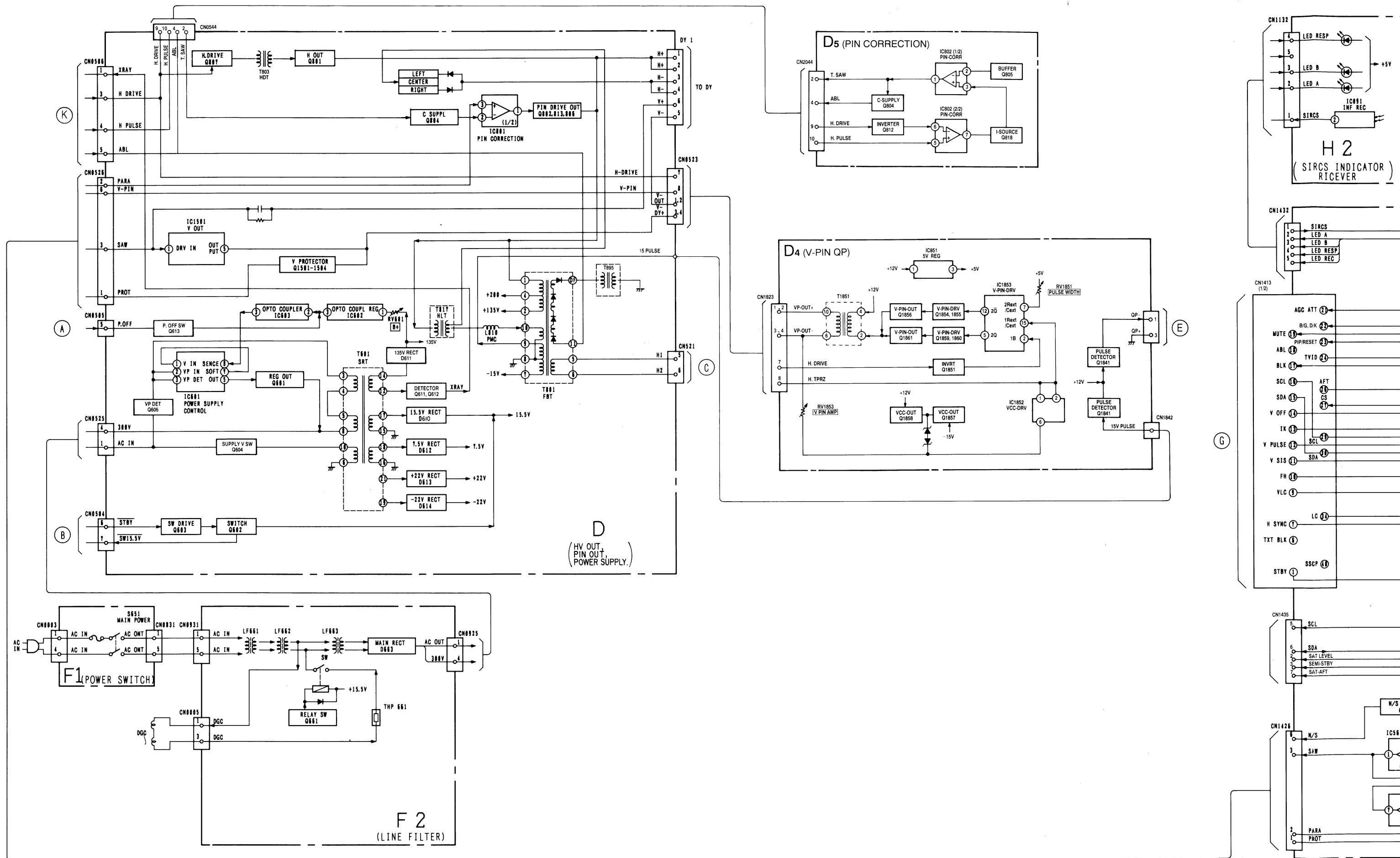
For all IC's used in the AE 2-B chassis which are necessary to obtain picture and sound there is an inbuilt I²C Bus diagnostic system.

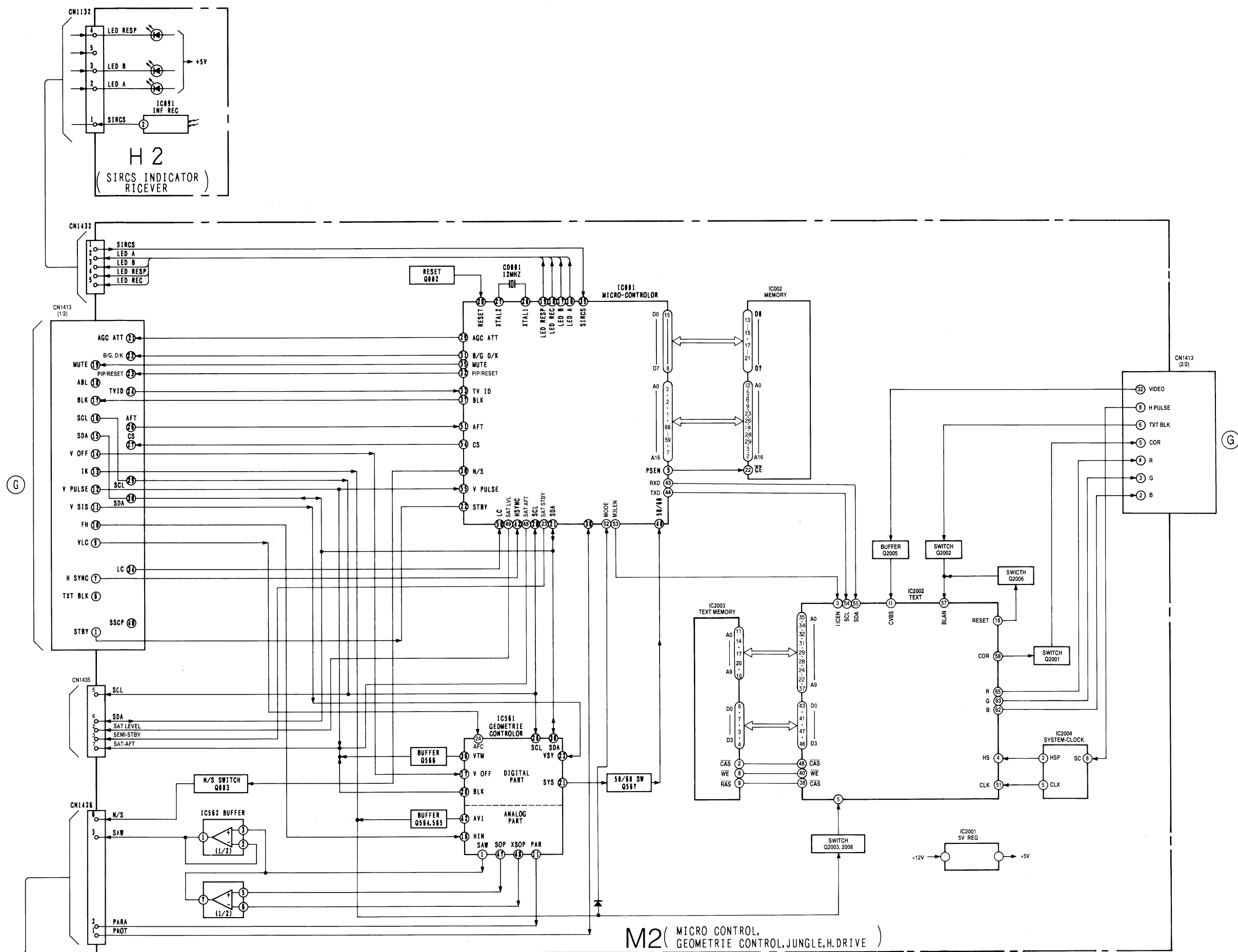
In the case of no acknowledge bit, LED A and LED B start blinking as shown.



# 5-1. BLOCK DIAGRAM (1)

## SECTION 5 DIAGRAMS

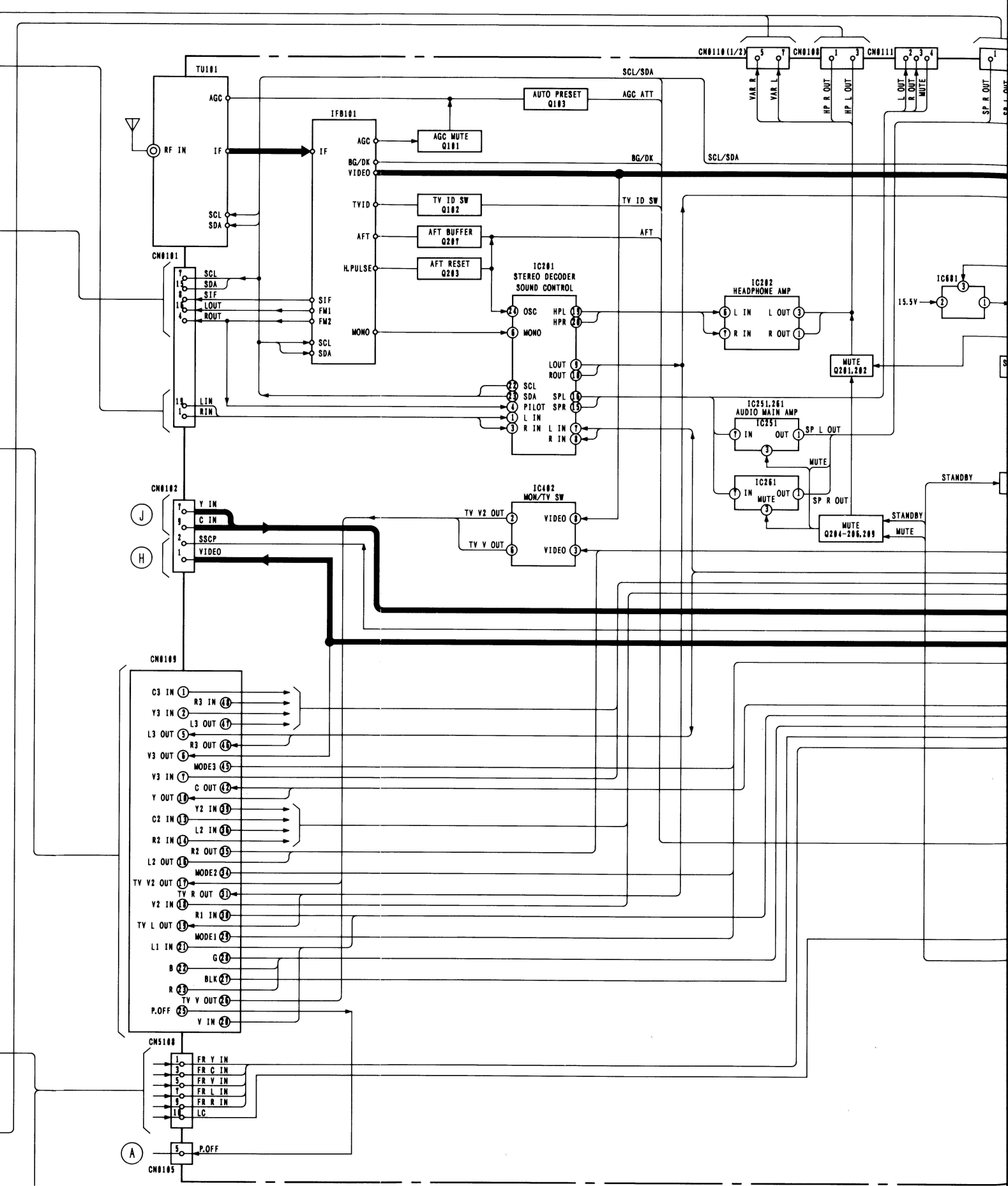
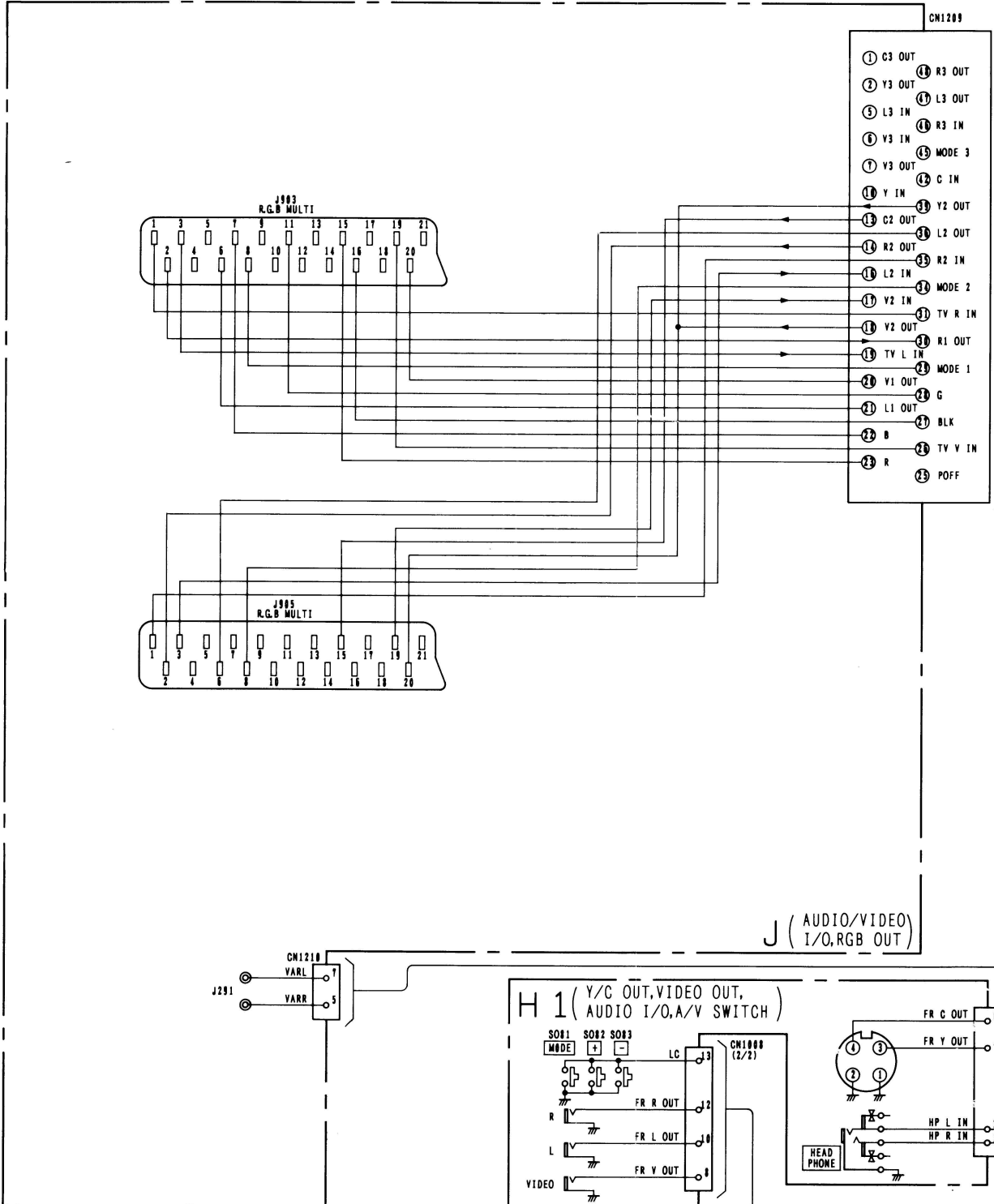
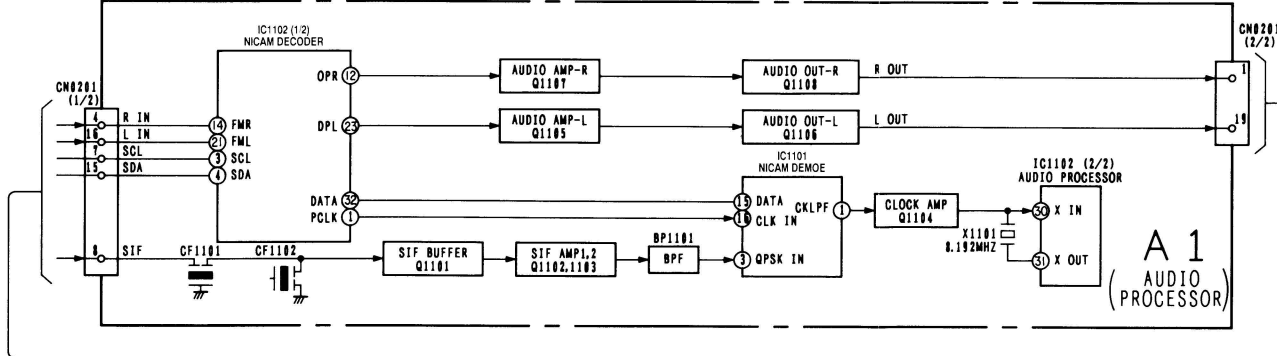




### BLOCK DIAGRAM (2)

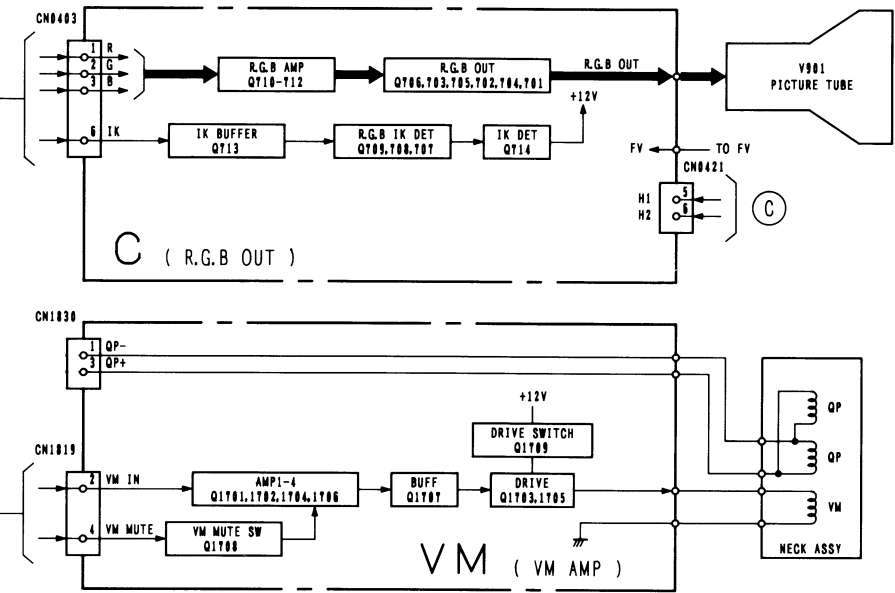
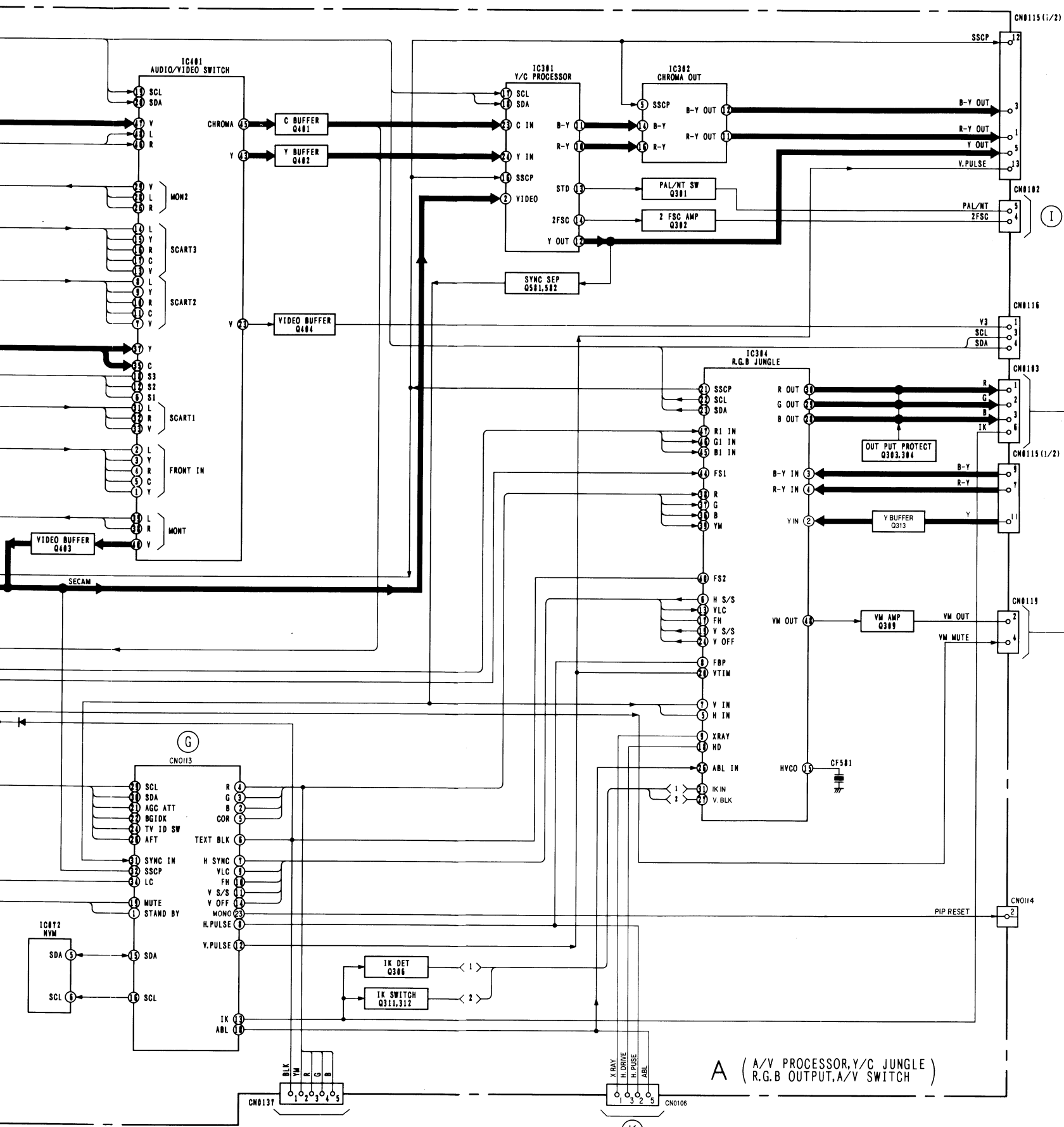
Spanish, UK model only

**Spanish, UK model only**

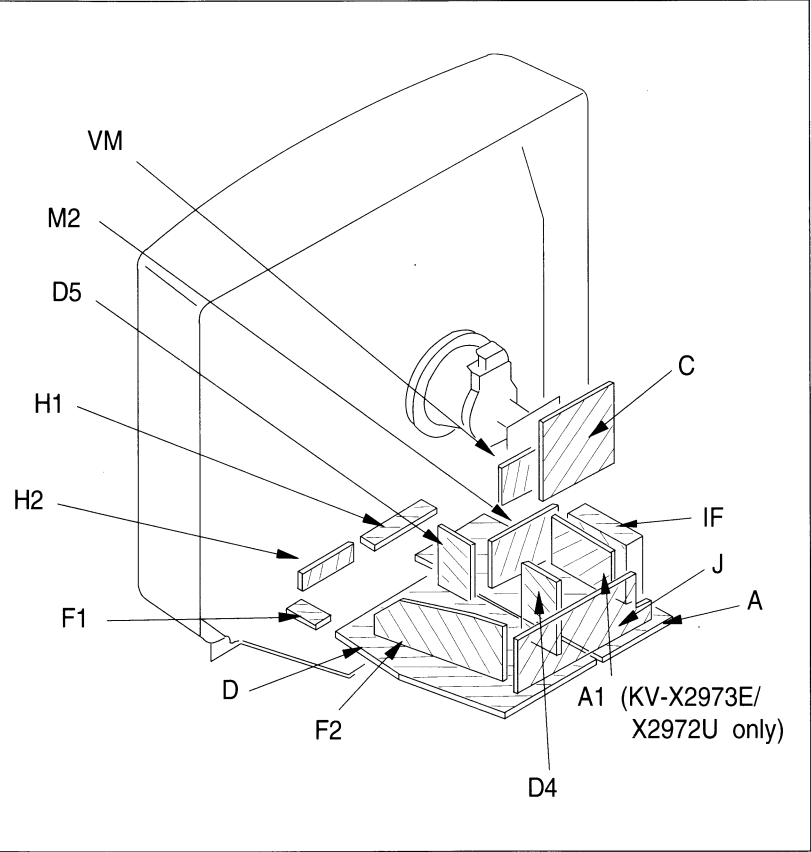








5-2. CIRCUIT BOARDS LOCATION



5-3. SCHEMATIC DIAGRAMS AND PRINTED WIRING BOARDS

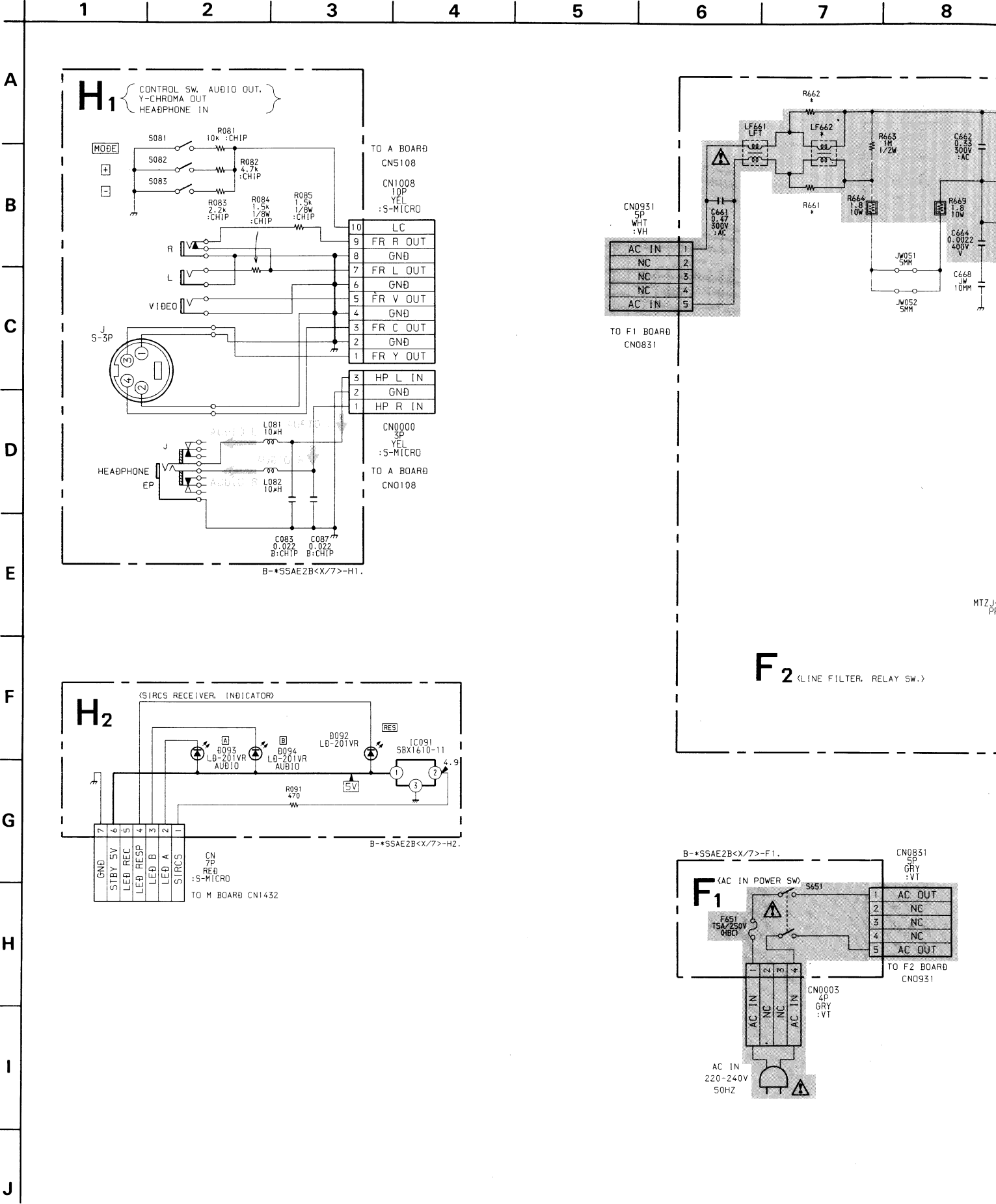
- Note :
- All capacitors are in  $\mu F$  unless otherwise noted.  
 $pF : \mu \mu F$  50WV or less are not indicated except for electrolytic.
  - Indication of resistance, which dose not have one for rating electrical power, is as follows.
- Pitch : 5mm  
Rating electrical power : 1/4W
- Chip resistor is in 1/10W.
  - All resistors are in ohms.  
 $k \Omega = 1000 \Omega$ ,  $M \Omega = 1000K \Omega$
  - : nonflammable resistor.
  - : fusible resistor.
  - $\Delta$  : internal component.
  - : panel designation or adjustment for repair.
  - All variable and adjustable resistors have charactristic curve B, unless otherwise noted.
  - All voltages are in V.
  - Readings are taken with a 10M $\Omega$  digital multimeter.
  - Readings are taken with a color-bar signal input.
  - Voltage variations may be noted due to normal produc-tion tolerances.
  - : B+ bus.
  - : B- bus.
  - : signal path.(RF)
  - $\perp$  : earth - ground
  - : earth - chassis

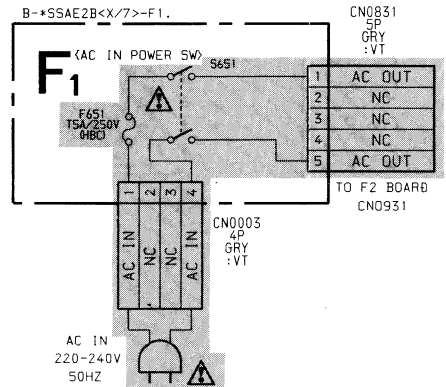
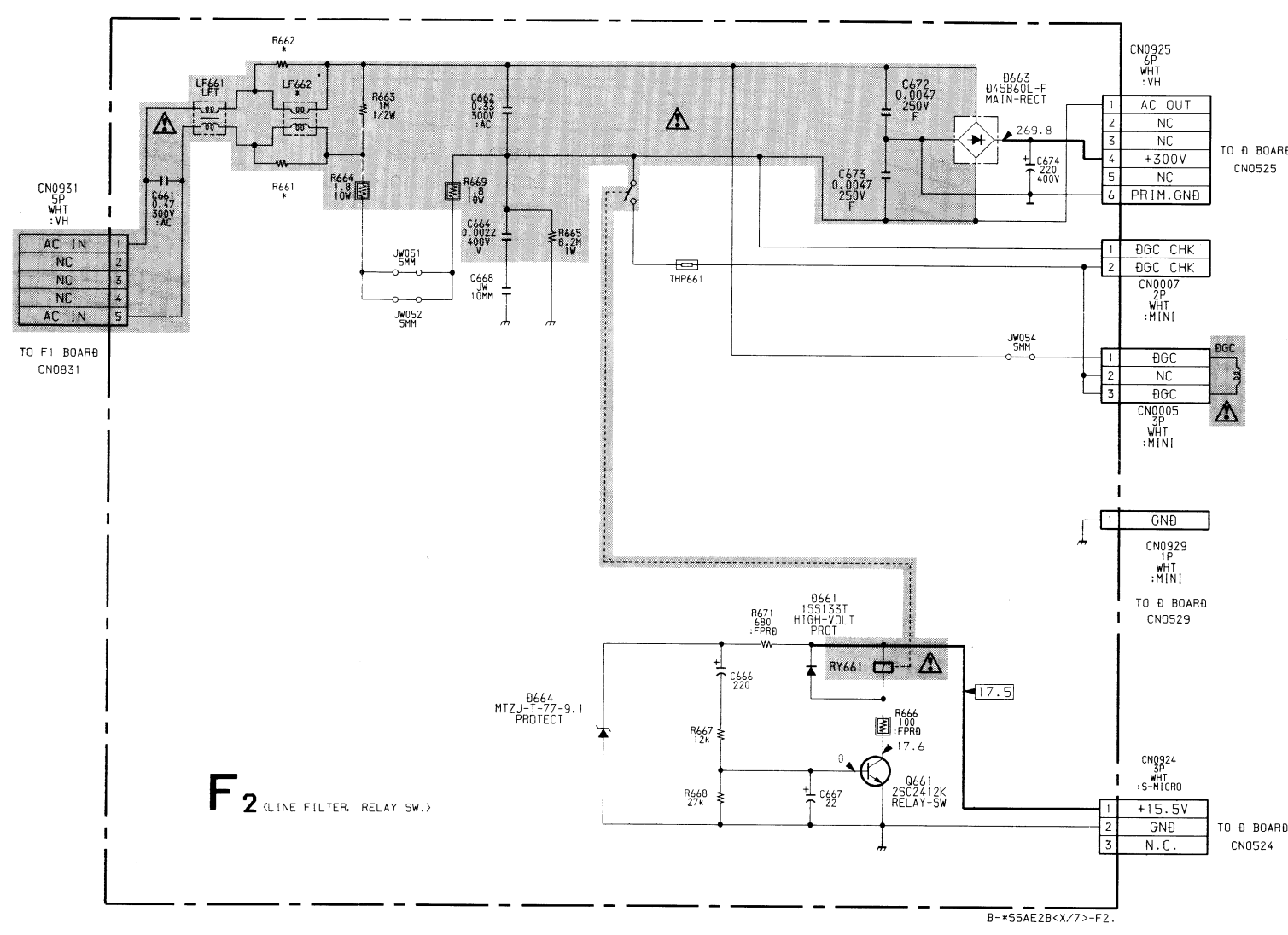
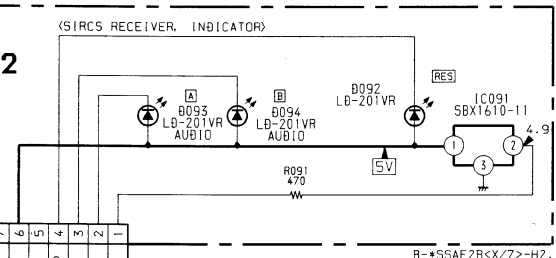
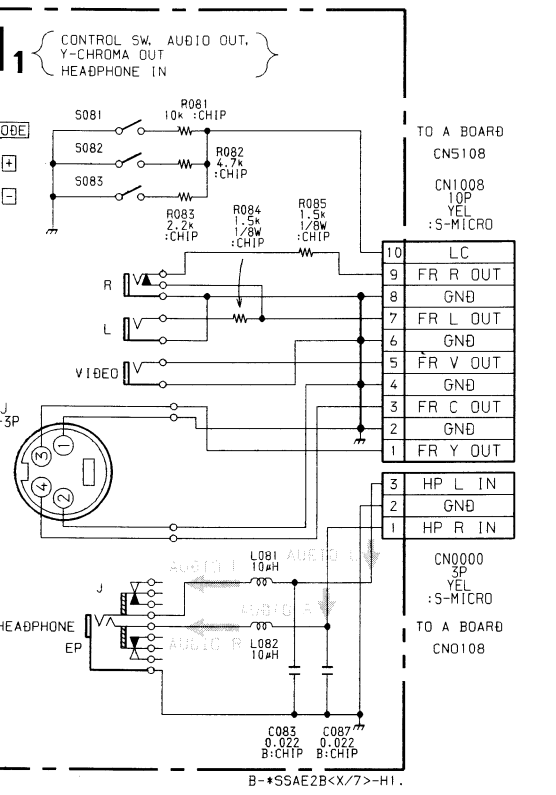
Reference information

RESISTOR	RN	: METAL FILM
	RC	: SOLID
	FPRD	: NONFLAMMABLE CARBON
	FUSE	: NONFLAMMABLE FUSIBLE
	RS	: NONFLAMMABLE METAL OXIDE
	RB	: NONFLAMMABLE CEMENT
	RW	: NONFLAMMABLE WIREWOUND
	*	: ADJUSTMENT RESISTOR
COIL	LF-8L	: MICRO INDUCTOR
CAPACITOR	TA	: TANTALUM
	PS	: STYROL
	PP	: POLYPROPYLENE
	PT	: MYLAR
	MPS	: METALIZED POLYESTER
	MPP	: METALIZED POLYPROPYLENE
	ALB	: BIPOLAR
	ALT	: HIGH TEMPERATURE
	ALR	: HIGH RIPPLE

Note: The components identified by shading and mark are critical for safety. Replace only with part number specified.

Note: Les composants identifiés par une trame et par une marque sont d'une importance critique pour la sécurité. Ne les remplacer que par des pièces de numéro spécifié.

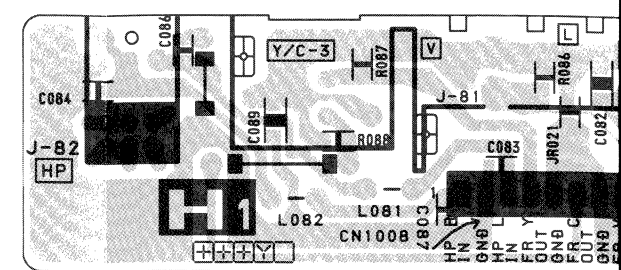




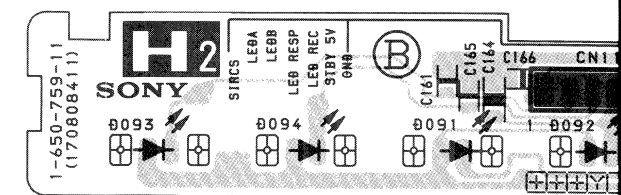
F2 BOARD \* MARK

Model	KV-X2971A	KV-X2971B	KV-X2971D	KV-X2971K	KV-X2973E	KV-X2972U
R661	-	JW 10MM	-	-	JW 10MM	JW 10MM
R662	-	JW 10MM	-	-	JW 10MM	JW 10MM
LF662	LFT	-	LFT	LFT	-	-

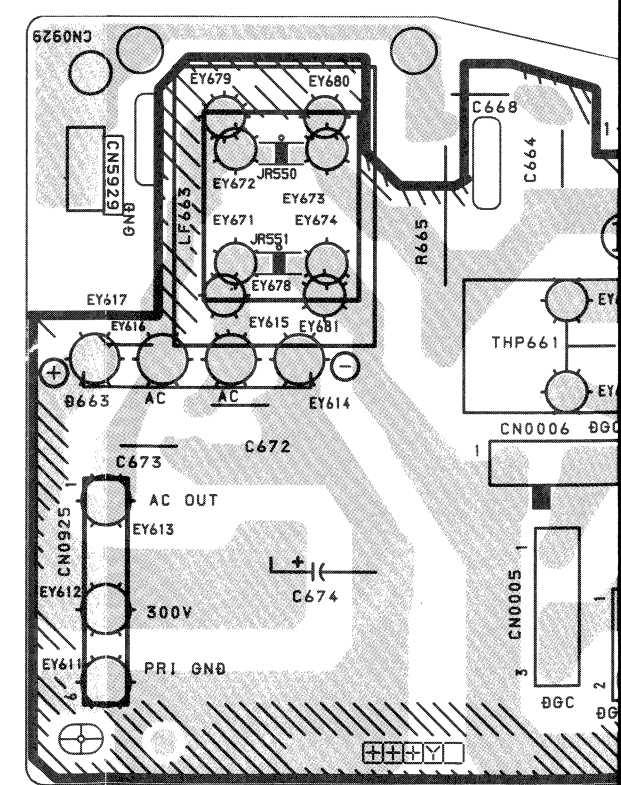
- H1 BOARD -

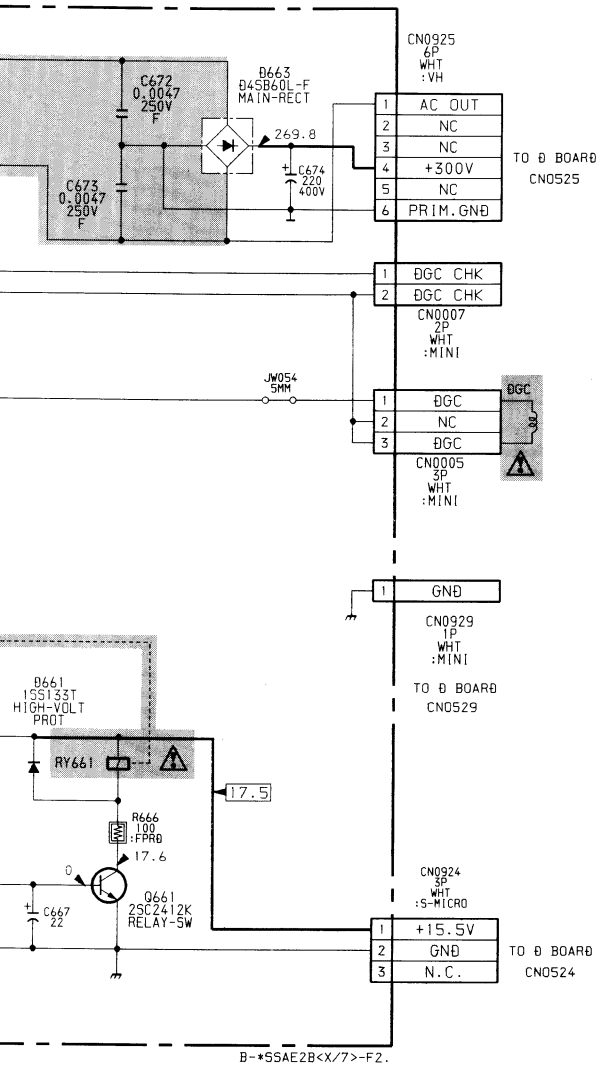


- H2 BOARD -



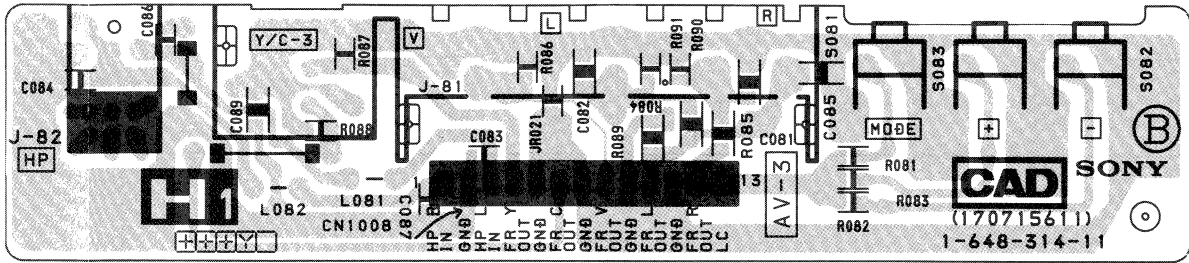
- F2 BOARD -



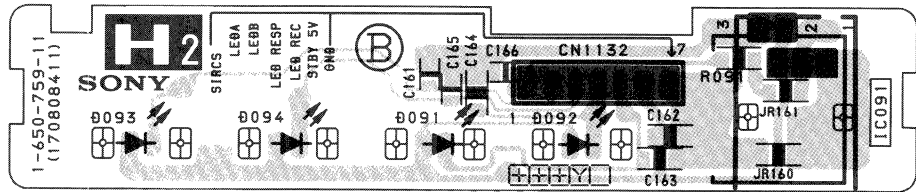


KV-X2971B	KV-X2971D	KV-X2971K	KV-X2973E	KV-X2972U
JW 10MM	-	-	JW 10MM	JW 10MM
JW 10MM	-	-	JW 10MM	JW 10MM
-	LFT	LFT	-	-

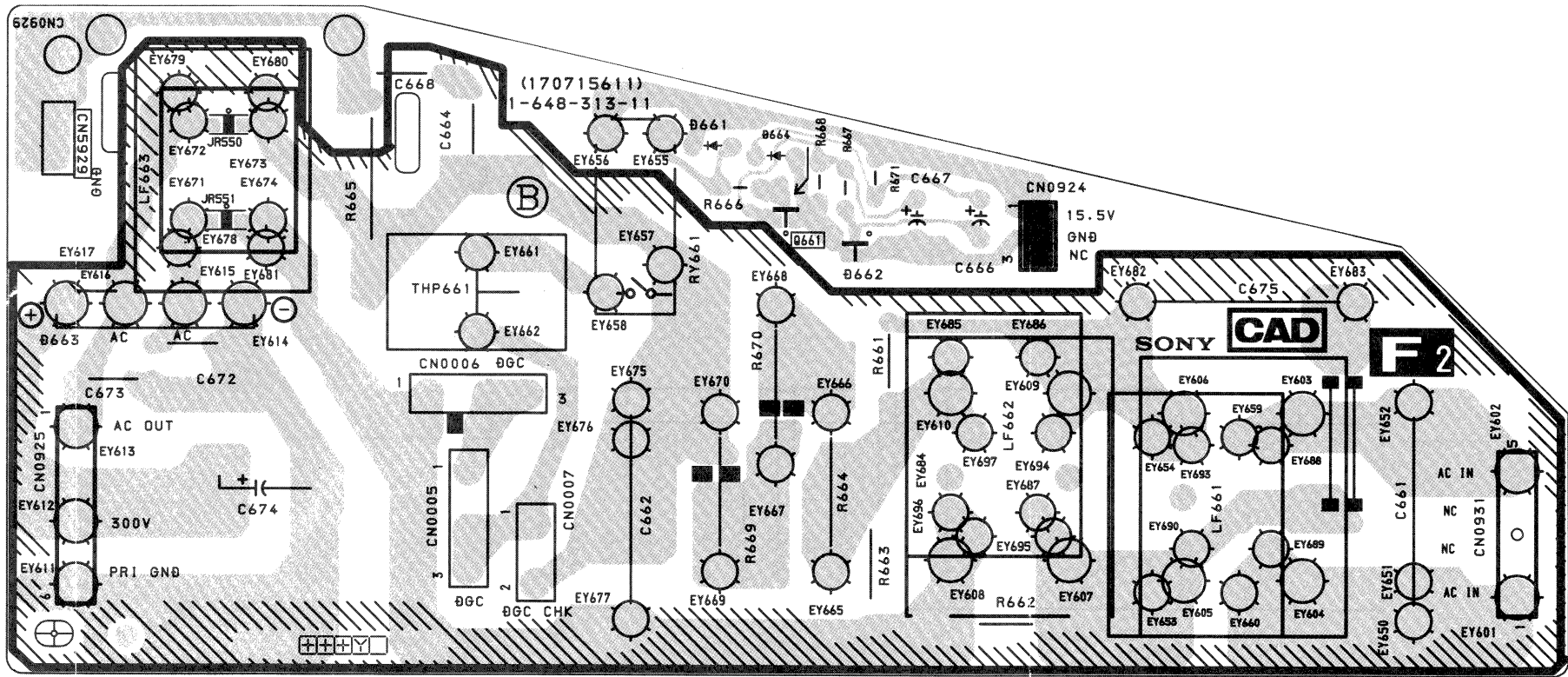
- H1 BOARD -



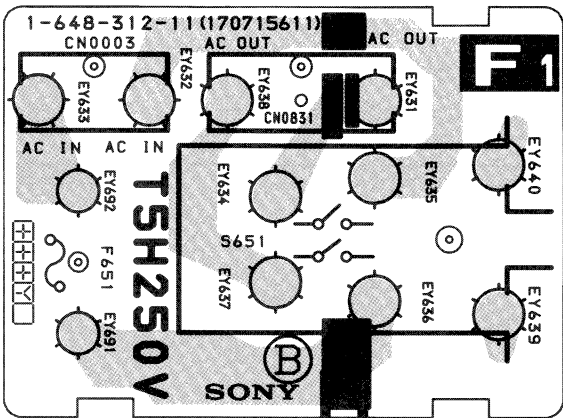
- H2 BOARD -



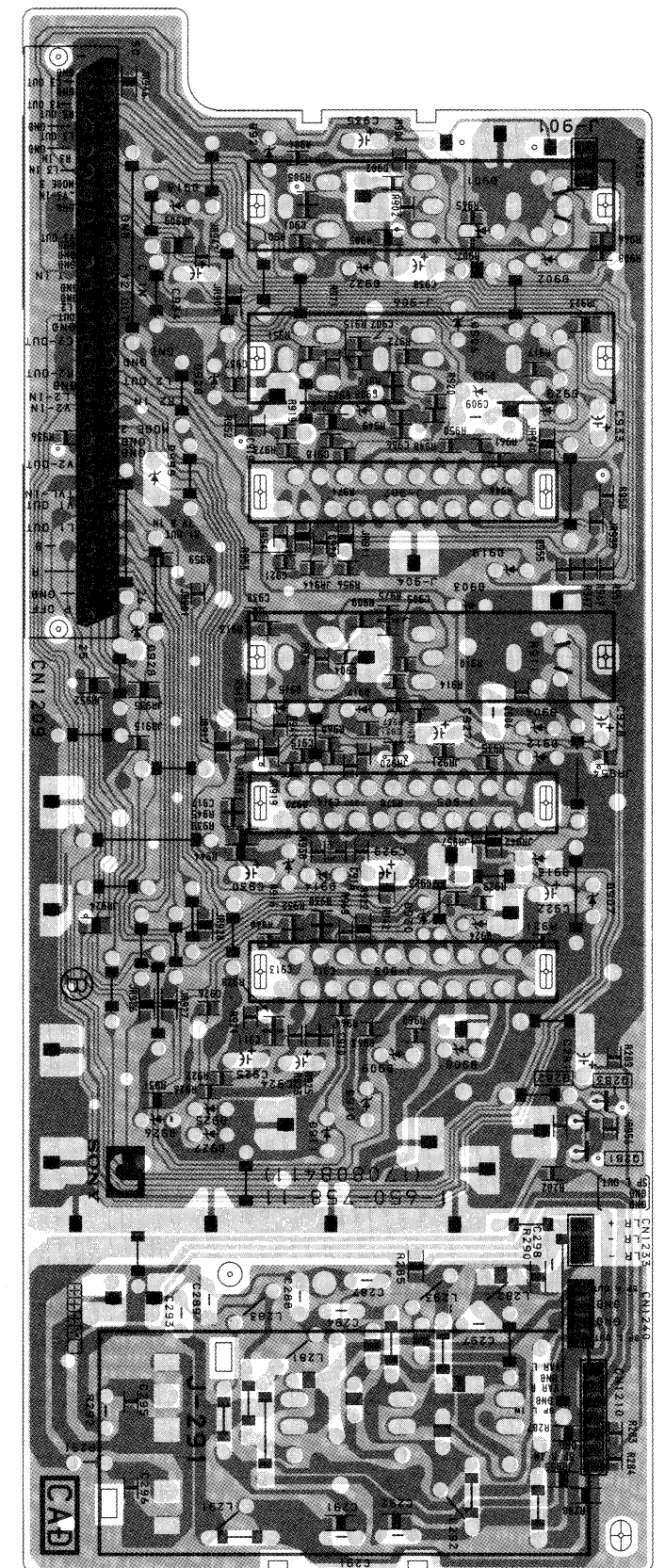
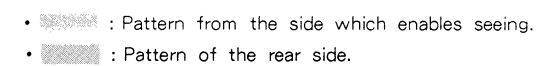
- F2 BOARD -

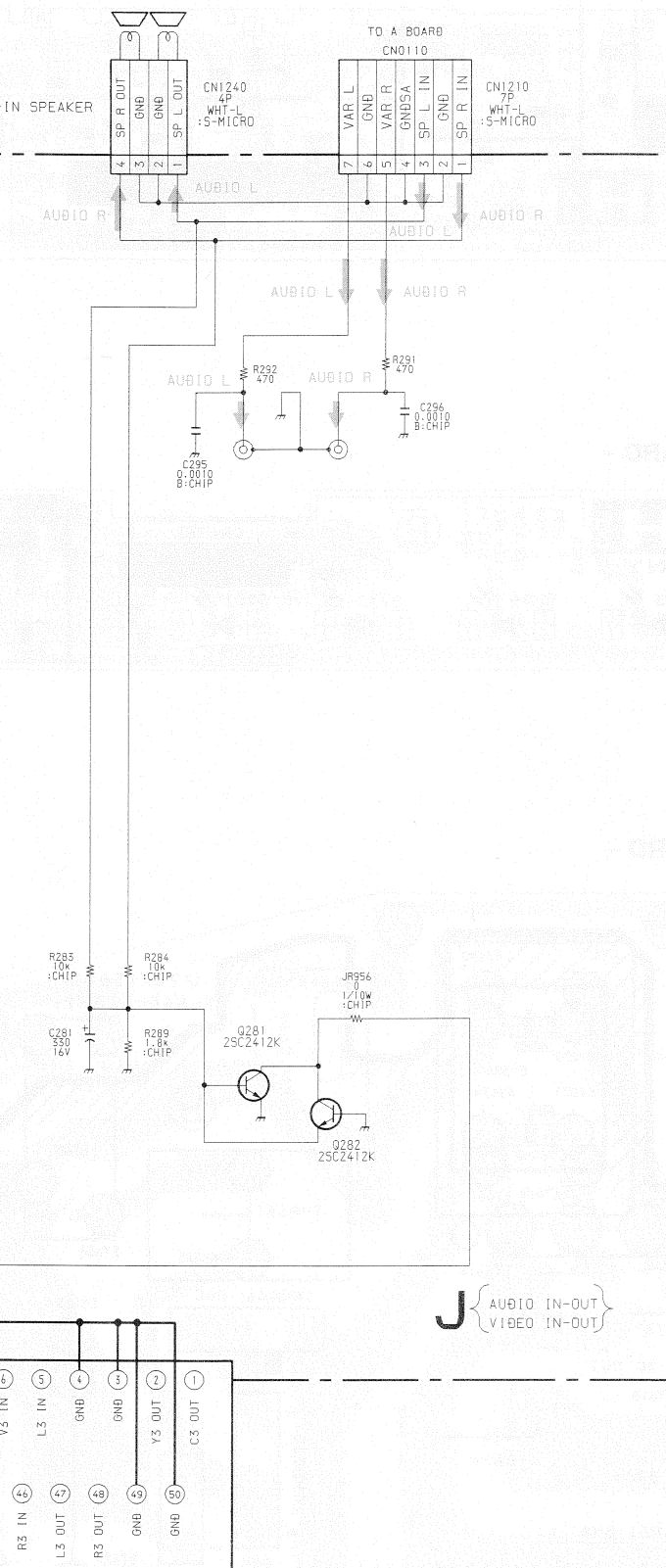


- F1 BOARD -









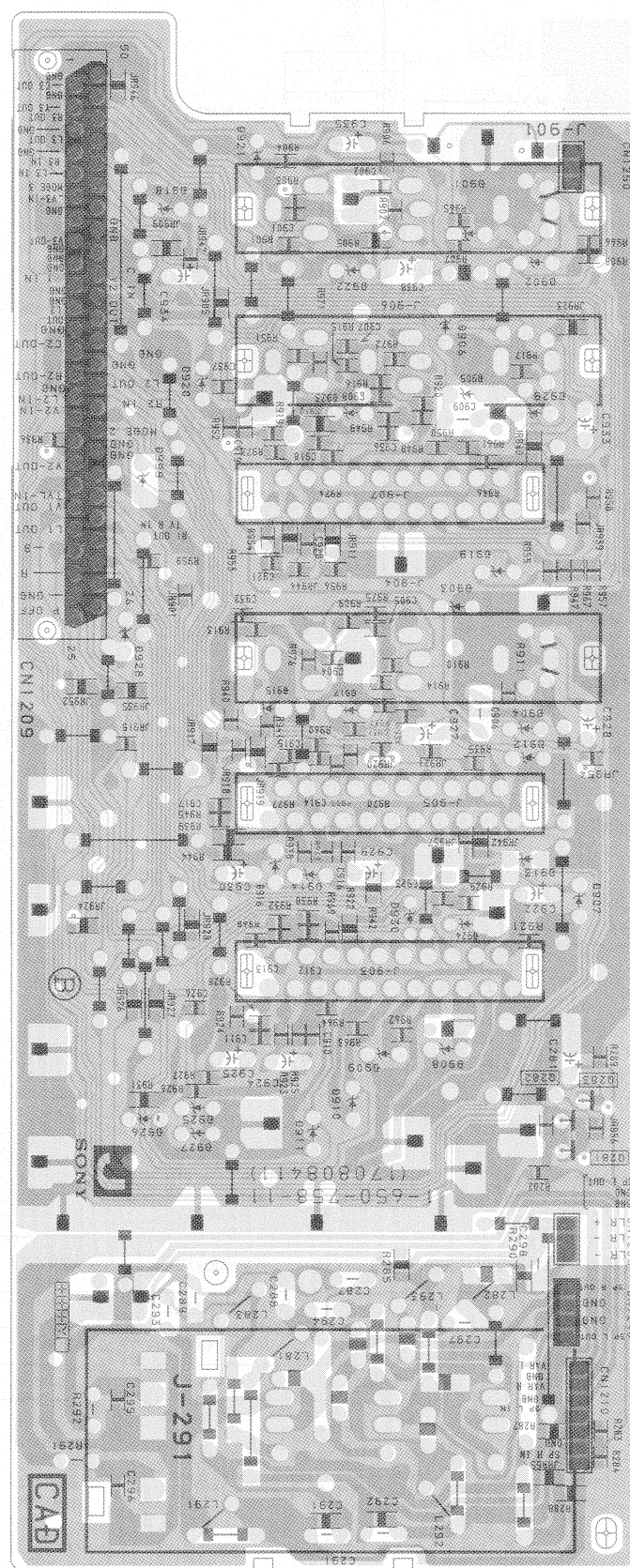
Note :

- Pattern from the side which enables seeing.
- Pattern of the rear side.

**J** [AUDIO IN/OUT  
VIDEO IN/OUT]

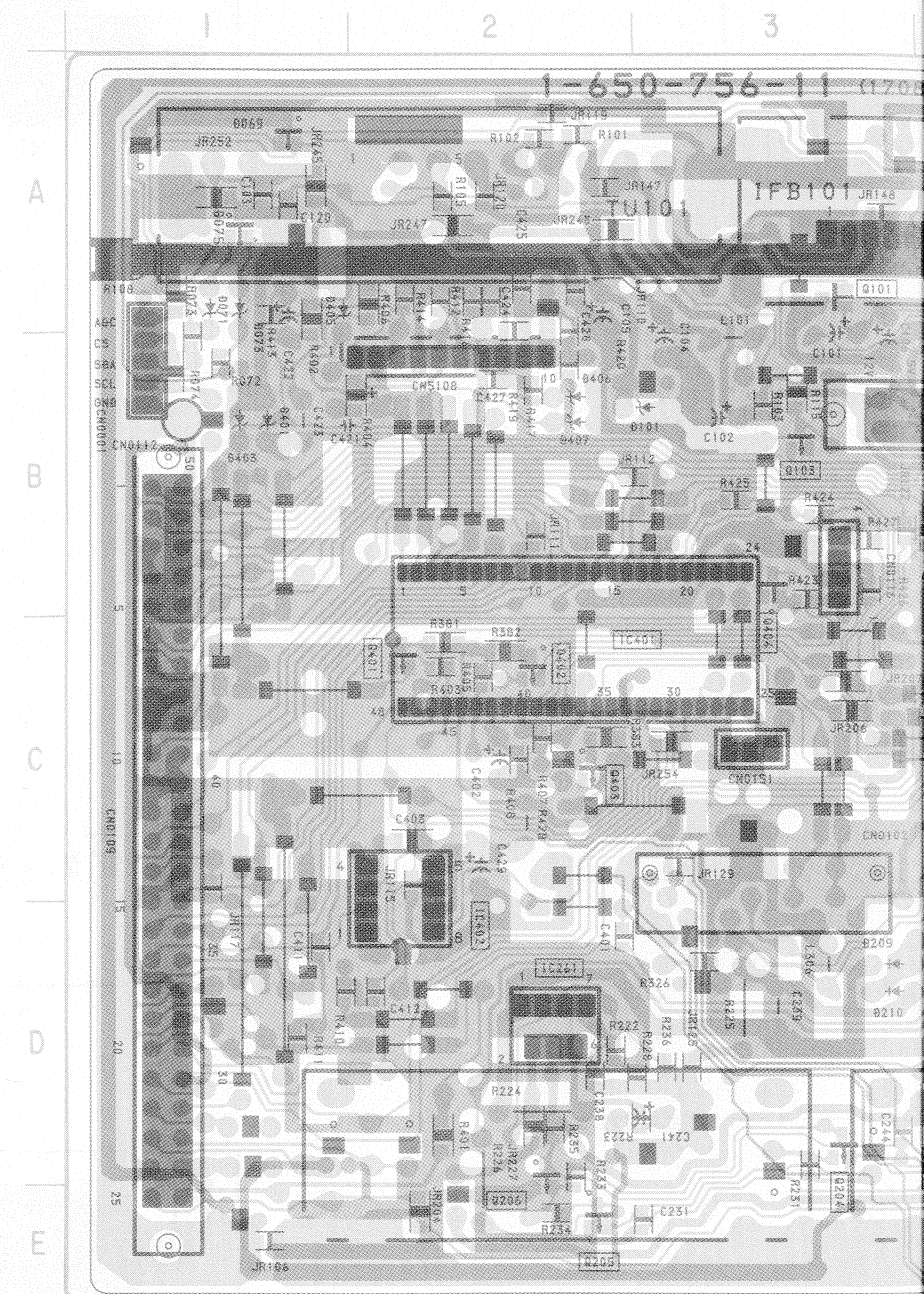
**A** [TUNER, AUDIO, CONTROL, AUDIO AMP,  
AV SW, R.G.B JUNGLE, Y/C PROCESSOR]

- J BOARD -



IC		DIODE	
IC072	B-6	Q404	B-3
IC201	C-6	Q581	B-9
IC202	C-4	Q582	B-9
IC251	D-4	Q610	E-9
IC261	D-2	Q681	E-7
IC301	A-8	Q682	D-9
IC302	A-10		
IC304	C-10		
IC401	C-2		
IC402	D-2		
IC681	D-9		
IC684	C-4		
IC685	E-8		
TRANSISTOR		DIODE	
Q071	D-8	D068	B-7
Q101	A-3	D069	A-1
Q102	A-7	D071	A-1
Q103	A-3	D073	A-1
Q201	D-5	D075	A-1
Q202	D-5	D077	B-7
Q203	A-4	D078	B-7
Q204	D-3	D079	B-7
Q205	E-2	D101	B-2
Q206	D-2	D206	D-7
Q207	B-6	D207	E-7
Q209	E-7	D208	D-7
Q210	A-6	D209	D-3
Q301	A-7	D210	D-3
Q302	B-7	D211	E-5
Q303	D-10	D212	E-4
Q304	D-10	D213	D-5
Q305	A-8	D214	C-6
Q306	D-10	D301	B-9
Q308	C-9	D302	A-9
Q309	C-9	D304	B-10
Q311	C-8	D305	C-9
Q312	C-8	D306	D-10
Q313	B-8	D307	D-10
Q314	C-7	D308	D-10
Q401	C-2	D311	C-9
Q402	C-2	D312	C-8
Q403	C-2	D313	C-7
		D381	C-8
		D401	B-1
		D403	B-1
		D405	A-1
		D406	B-2
		D407	B-2
		D571	B-9
		D681	E-8
		D683	D-9

- A BOARD -



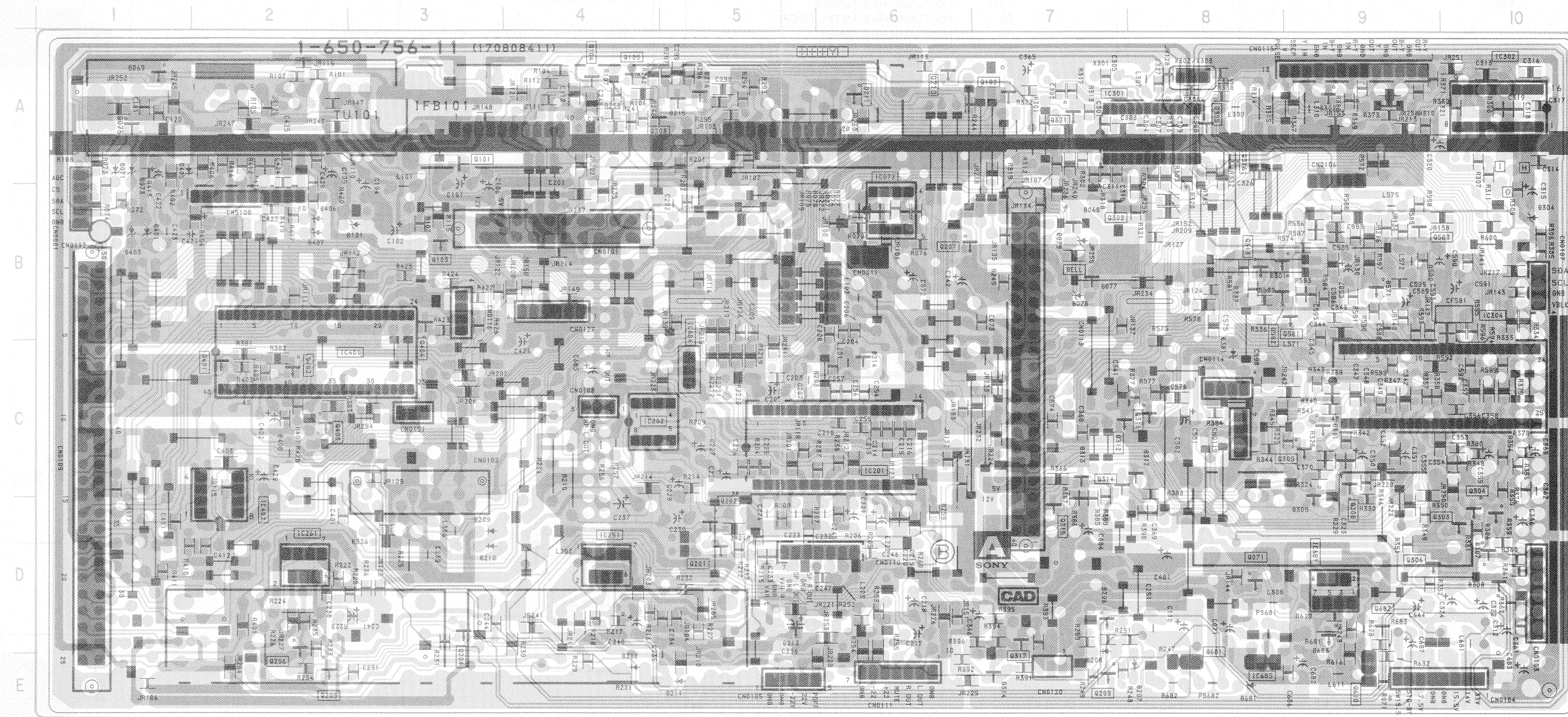


- A BOARD -

04 B-3  
 01 B-9  
 02 B-9  
 0 E-9  
 01 E-7  
 02 D-9

# DIODE

08 B-7  
 09 A-1  
 1 A-1  
 3 A-1  
 5 A-1  
 7 B-7  
 8 B-7  
 9 B-7  
 1 B-2  
 6 D-7  
 7 E-7  
 8 D-7  
 9 D-3  
 0 D-3  
 1 E-5  
 2 E-4  
 3 D-5  
 4 C-6  
 1 B-9  
 2 A-9  
 4 B-10  
 5 C-9  
 6 D-10  
 7 D-10  
 8 D-10  
 1 C-9  
 2 C-8  
 3 C-7  
 1 C-8  
 1 B-1  
 3 B-1  
 5 A-1  
 6 B-2  
 7 B-2  
 1 B-9  
 1 E-8  
 3 D-9

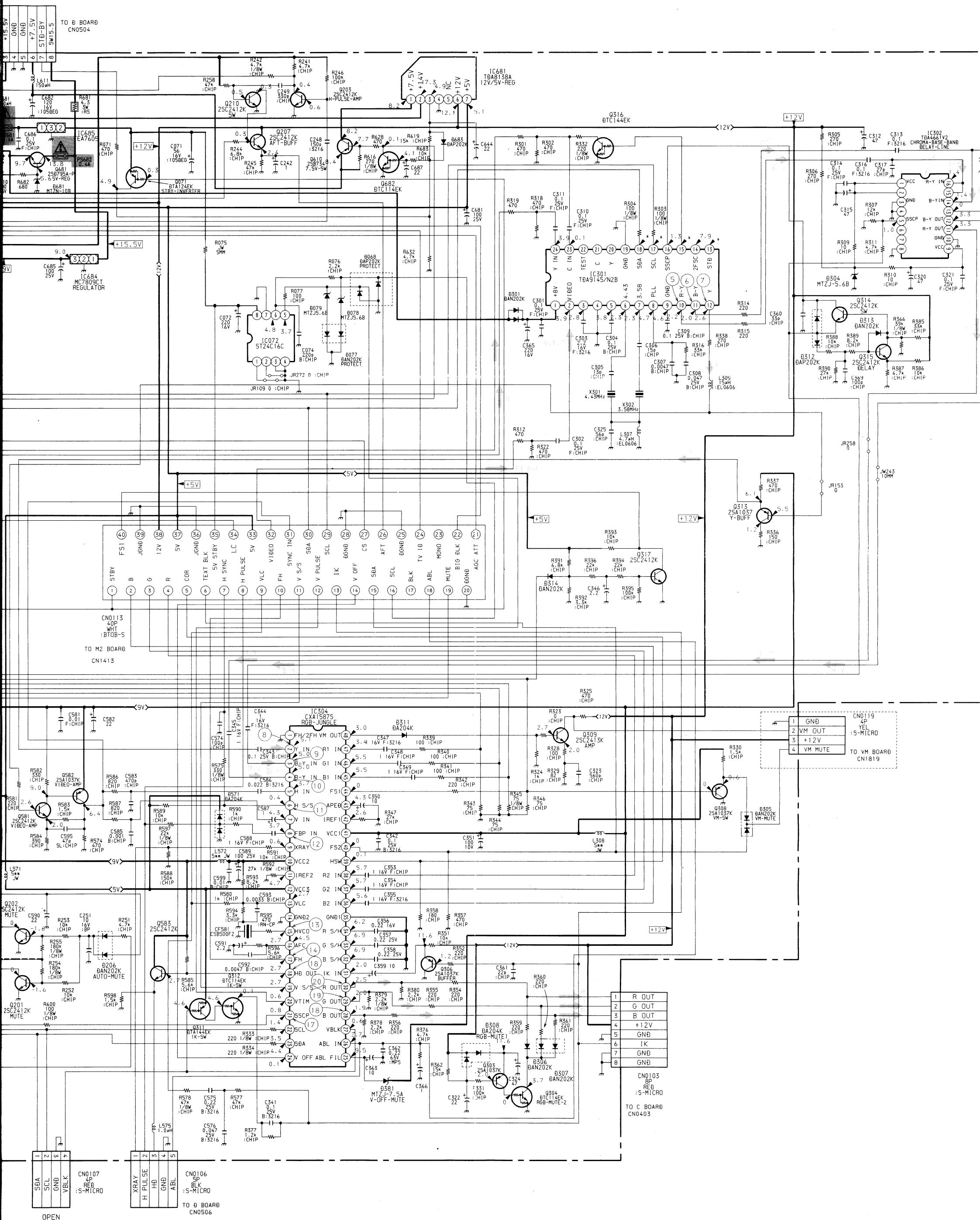


Note :

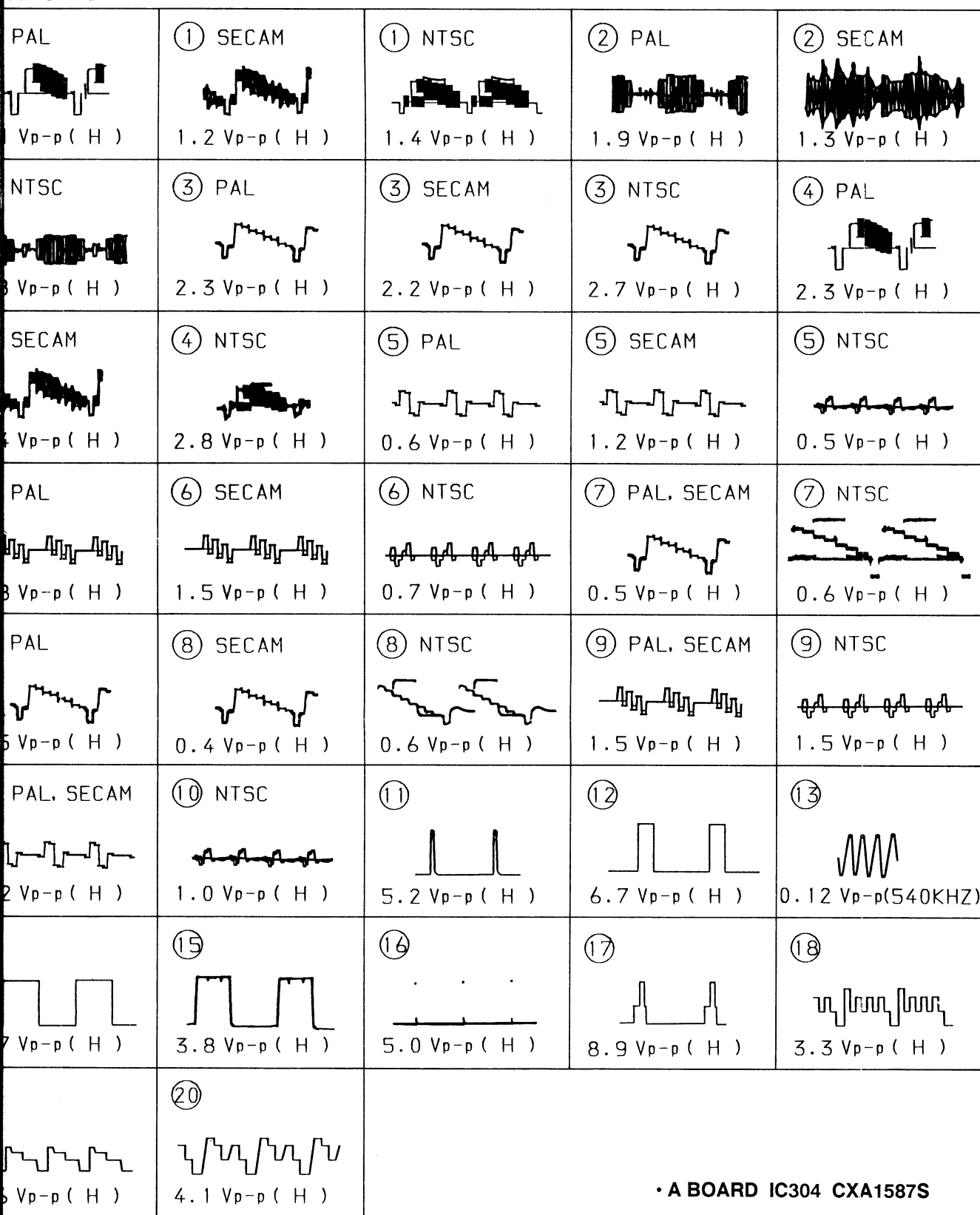
- Pattern from the side which enables seeing.
- Pattern of the rear side.







# VEFORMS A BOARD



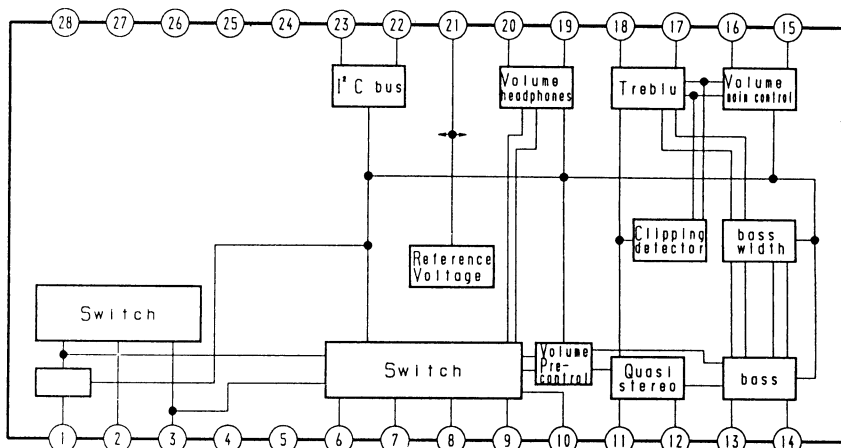
to the voltage value shown by  
mark ※ on the Schematic  
ram, see the another list.

## BOARD

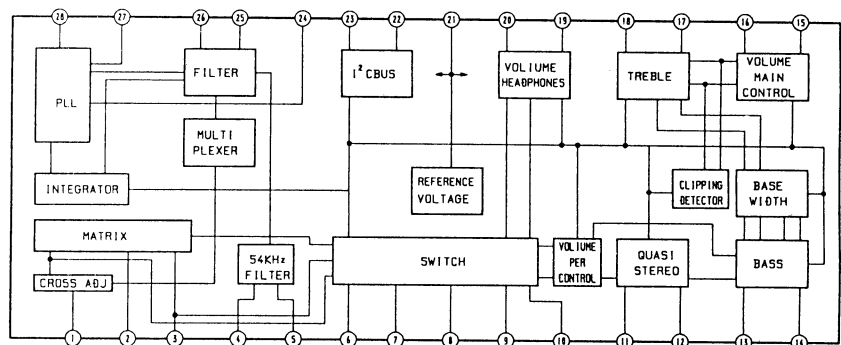
	PAL	SECAM	NTSC3.58	NTSC4.43
⑬	0.0	0.0	4.8	4.9
⑮	0.0	5.0	5.0	0.0
⑰	4.7	4.2	3.6	4.1
⑱	4.3	4.4	4.6	4.8
⑲	0.0	0.0	0.0	1.6
⑳	5.5	5.5	5.5	0.1
㉑	0.0	5.5	5.5	0.0
㉒	0.0	0.0	0.0	1.6

KV-X2971B	KV-X2971D	KV-X2971K	KV-X2973E	KV-X2972U
			20P	20P
TDA6612	TDA6612	TDA6612	TDA6612	TDA6622
IFH-389F	IFH-389	IFH-389	IFH-389	IFH-395
UV916H	UV916H	UV916H	UV916H	U944C

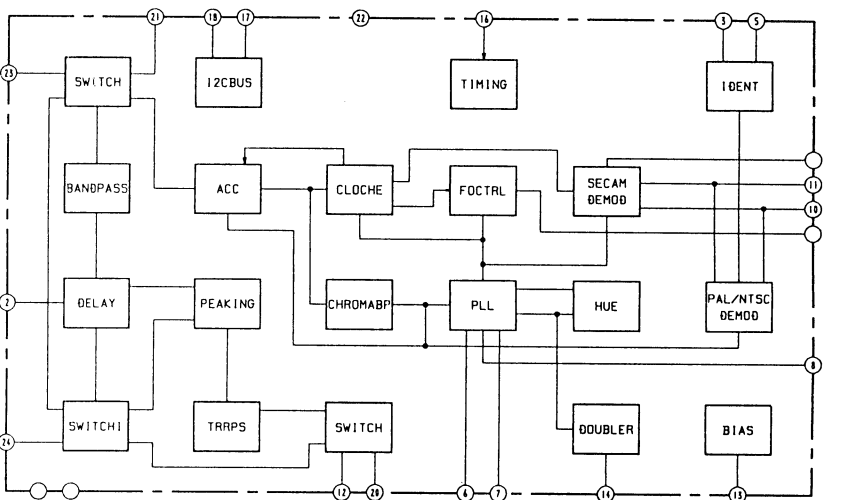
## A BOARD IC201 TDA6622 (UK Model only)



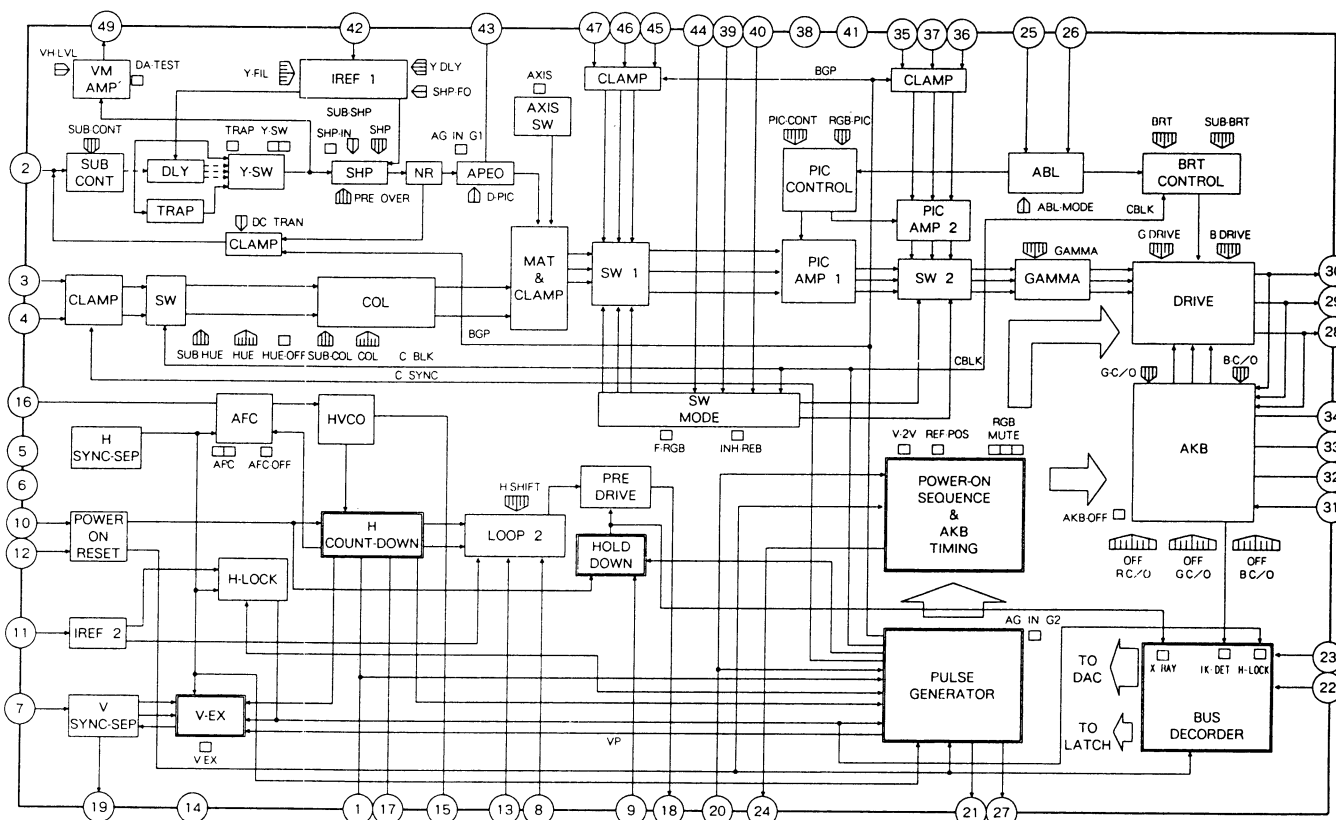
## A BOARD IC201 TDA6612



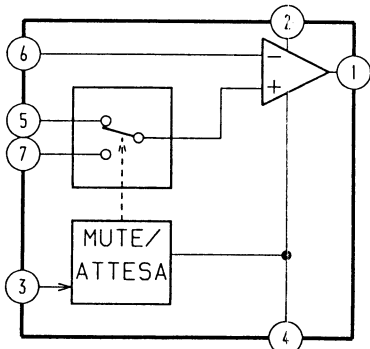
## A BOARD IC301 TDA9145



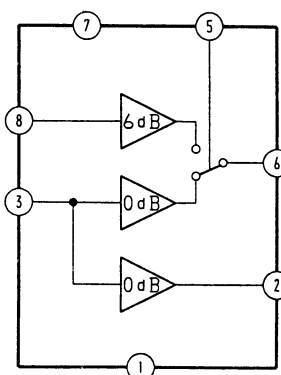
## A BOARD IC304 CXA1587S



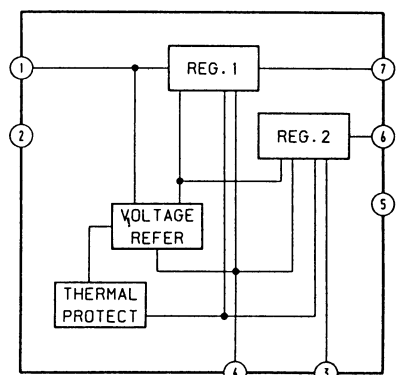
## A BOARD IC251/261 TDA2052



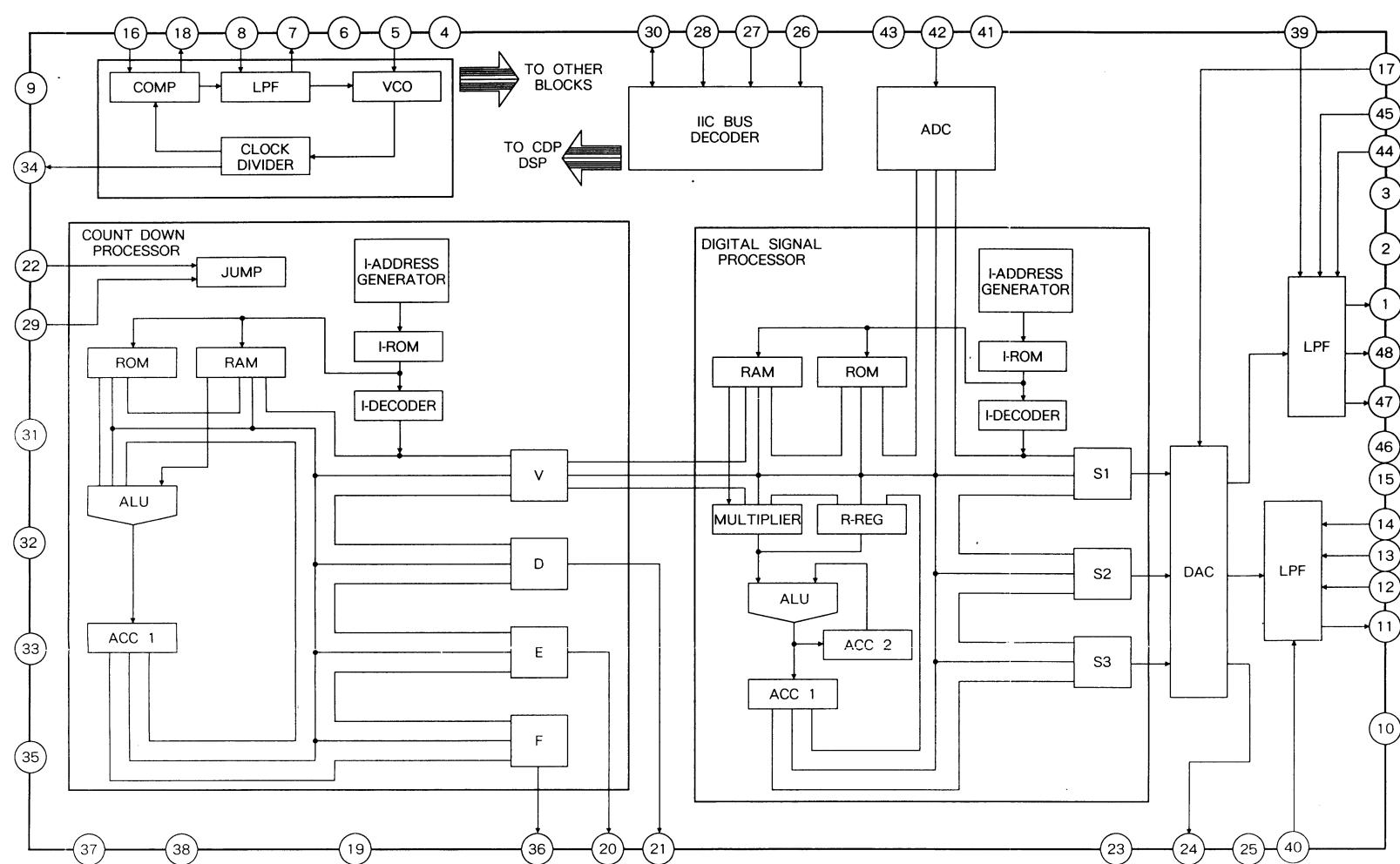
## A BOARD IC402 TEA2114



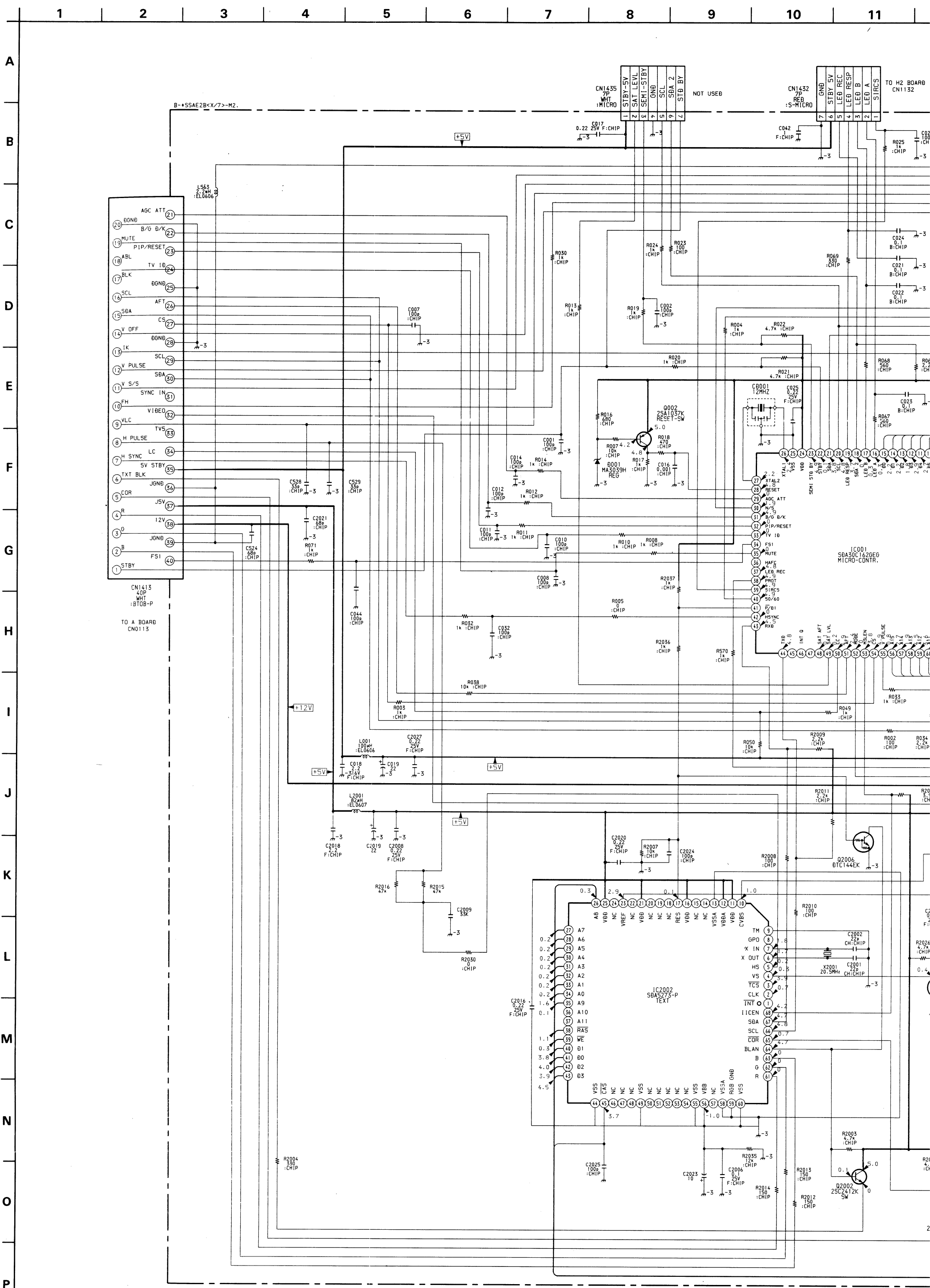
## A BOARD IC681 TDA8134A

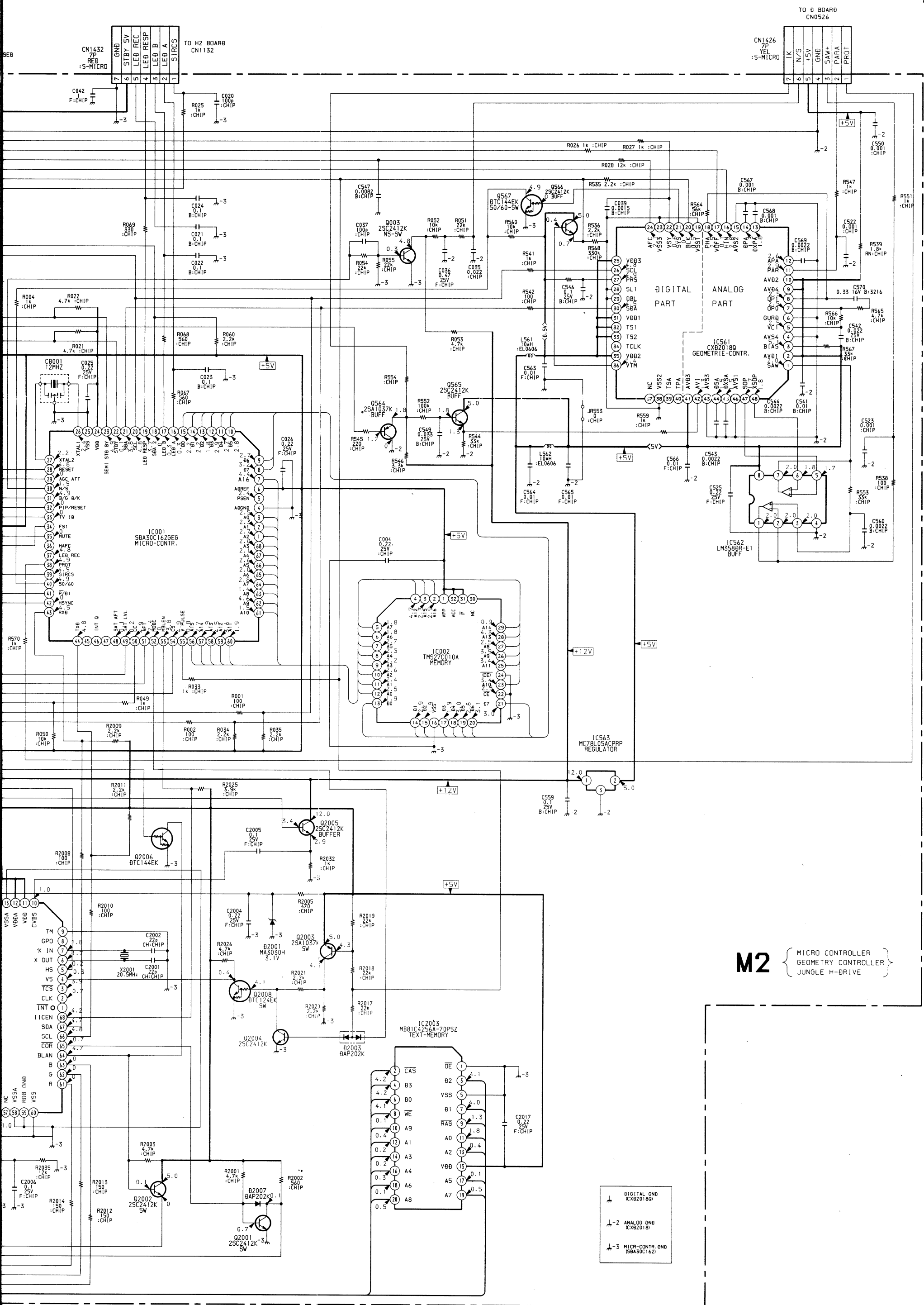


## • M2 BOARD IC561 CXD2018Q



A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P







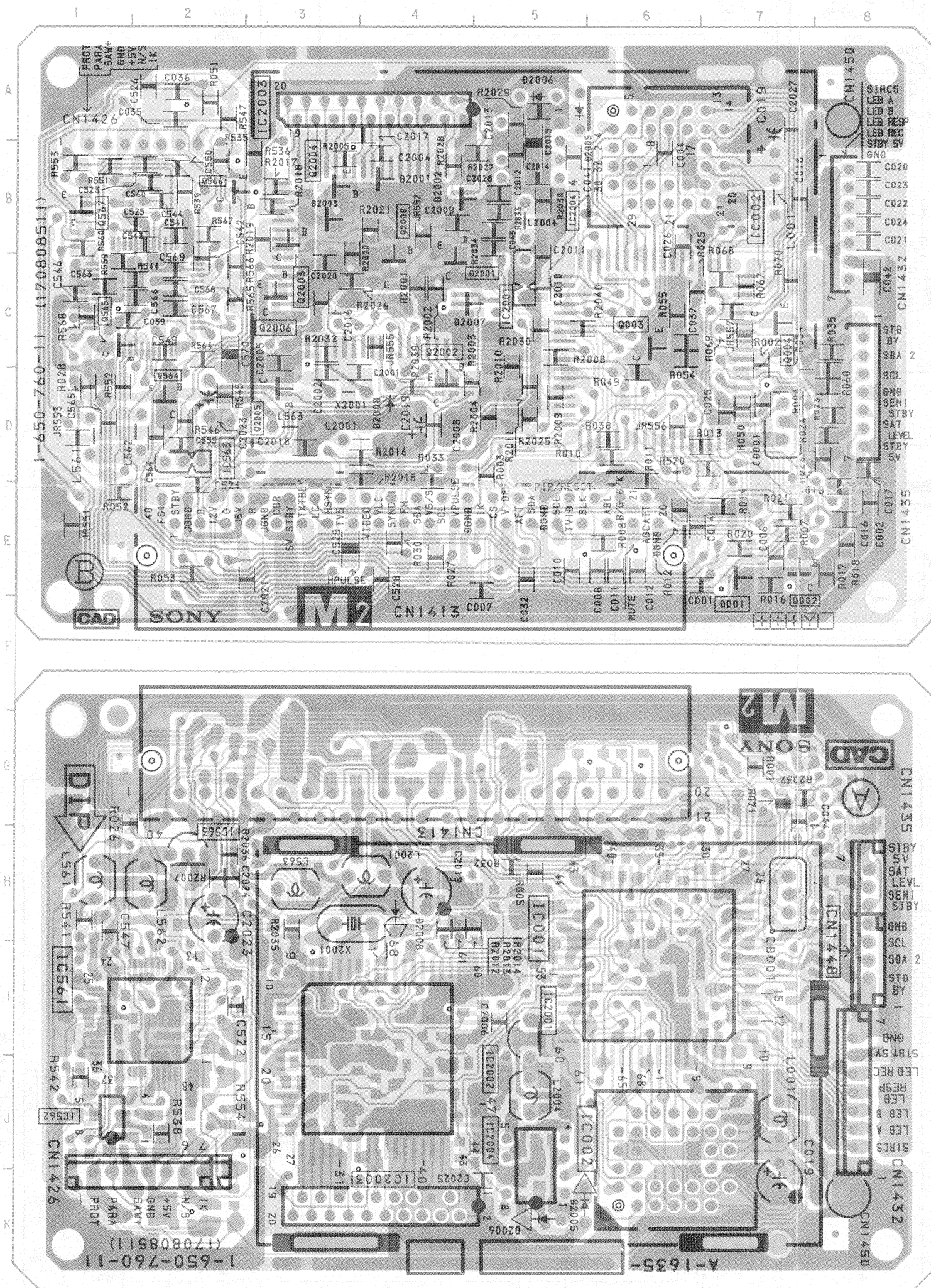
**M2**

MICRO CONTROLLER,  
GEOMETRY CONTROLLER,  
JUNGLE, H - DRIVE

**D**

H/V OUT, PIN OUT,  
POWER SUPPLY

- M2 BOARD -



Note:

- Pattern from the side which enables seeing.
- Pattern of the rear side.

IC

IC001	C - 3
IC002	B - 3, J - 3
IC561	C - 8
IC562	B - 8
IC563	D - 7, H - 7
IC2001	C - 4, I - 4
IC2002	C - 6
IC2003	B - 5, J - 6
IC2004	A - 4, J - 4

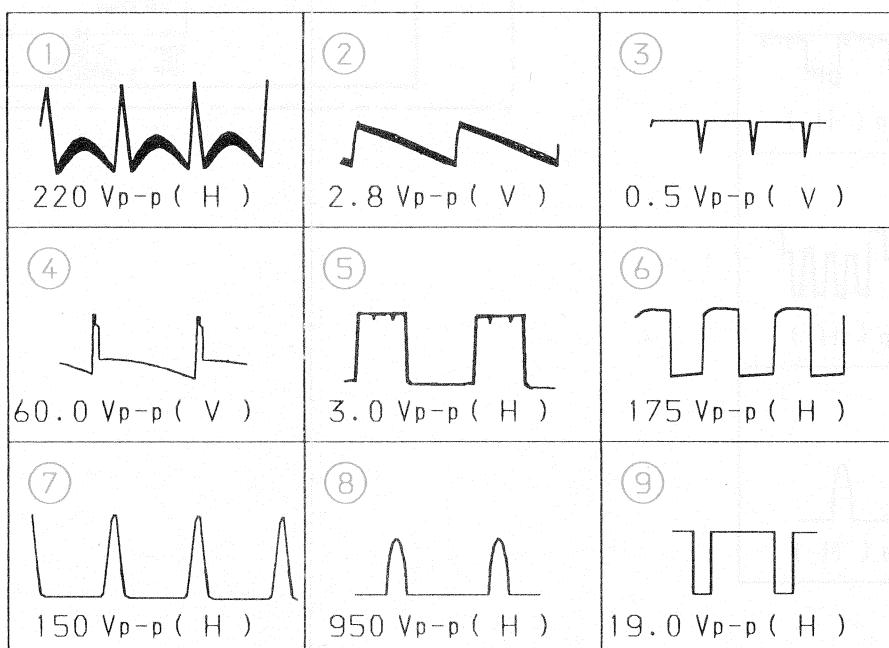
TRANSISTOR

Q002	G - 2
Q003	I - 3
Q564	H - 7
Q565	I - 8
Q566	J - 7
Q567	J - 8
Q2001	I - 5
Q2002	J - 5
Q2003	I - 6
Q2005	H - 5
Q2006	K - 5
Q2008	I - 6

DIODE

D001	G - 2
D2001	I - 5
D2002	J - 5
D2003	I - 6

• WAVEFORMS D BOARD

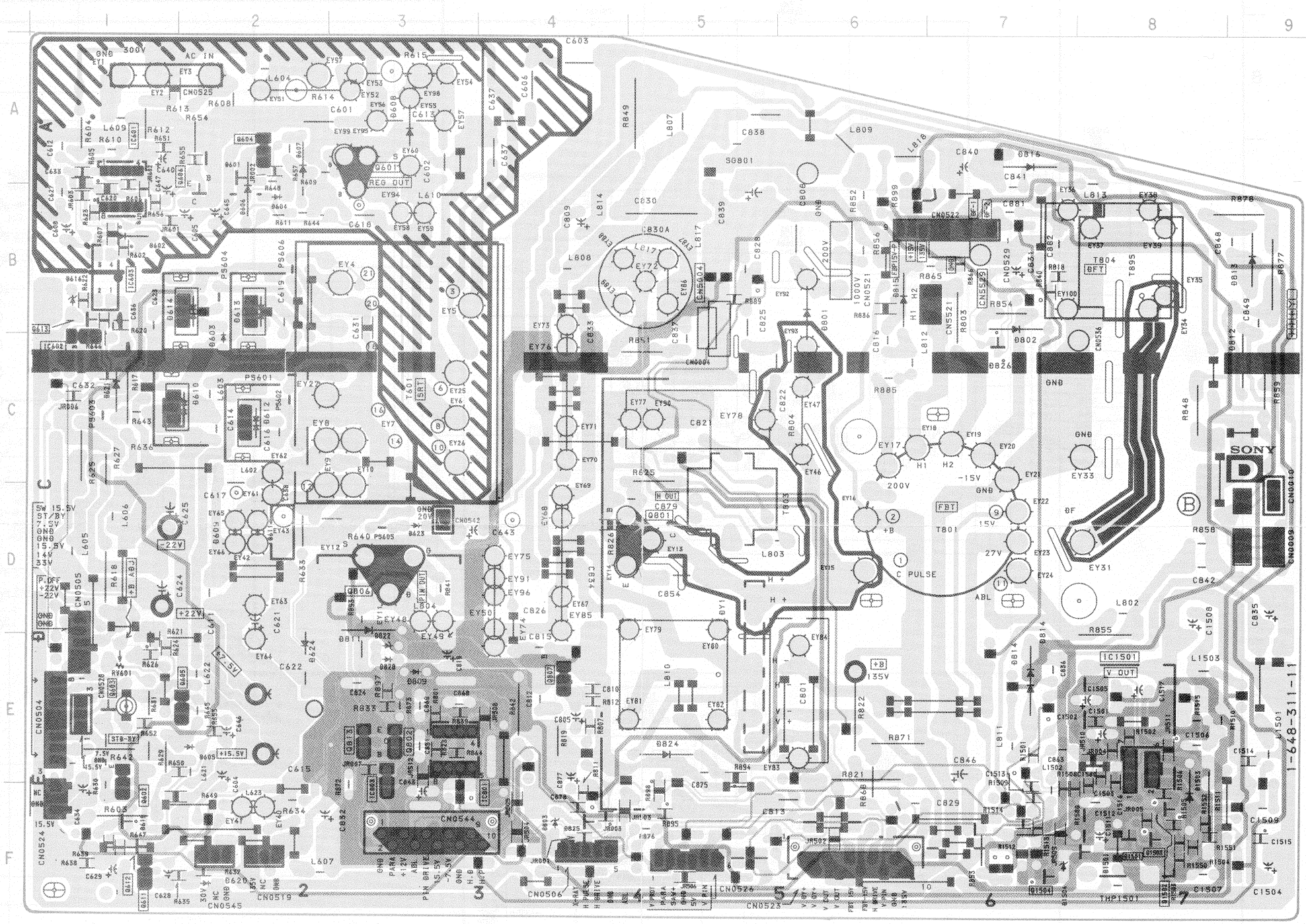






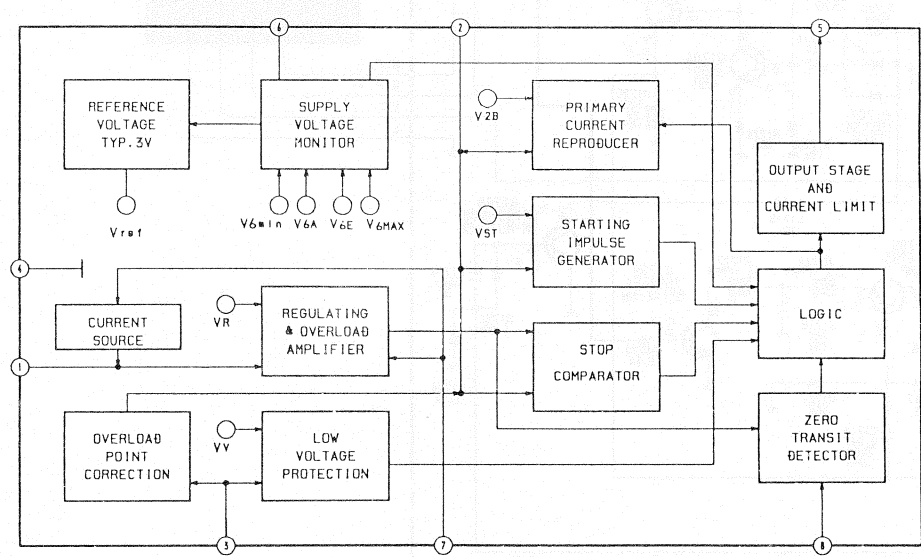
- D BOARD -

Note :  
• : Pattern from the side which enables seeing.  
• : Pattern of the rear side.



**NOTE:**  
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

• D BOARD IC601 TDA4605-3



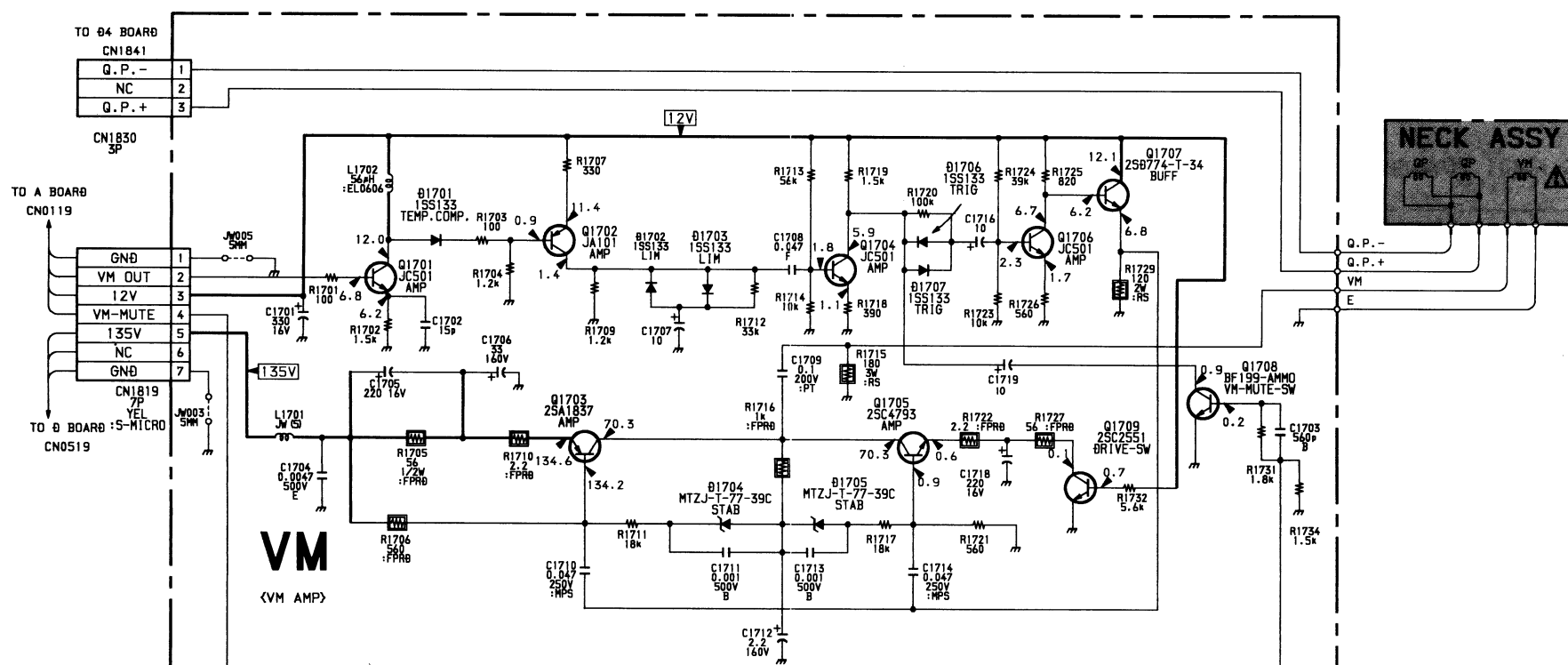
IC		D607	A - 2
IC601	A - 1	D608	A - 3
IC602	C - 1	D610	C - 2
IC603	B - 1	D611	D - 2
IC801	E - 3	D612	C - 2
IC803	F - 3	D613	B - 2
IC1501	E - 8	D614	B - 2
TRANSISTOR		D616	B - 1
Q601	A - 3	D619	F - 1
Q602	F - 1	D620	F - 2
Q603	E - 1	D621	C - 1
Q604	A - 2	D624	E - 2
Q605	E - 2	D801	B - 6
Q606	B - 2	D802	B - 7
Q611	F - 1	D803	F - 4
Q612	F - 1	D809	E - 3
Q613	B - 1	D811	D - 3
Q801	D - 5	D812	C - 9
Q802	E - 3	D813	B - 9
Q806	D - 3	D814	E - 7
Q807	E - 4	D815	B - 6
Q813	E - 3	D816	A - 7
Q1501	F - 8	D822	E - 3
Q1502	F - 8	D824	E - 5
Q1503	F - 8	D825	F - 4
Q1504	F - 7	D826	C - 7
DIODE		D828	E - 3
D601	A - 2	D1501	F - 8
D602	B - 1	D1503	F - 8
D604	B - 2	D1504	F - 7
D605	E - 2	VARIABLE RESISTOR	
D606	B - 2		
		RV601	E - 1



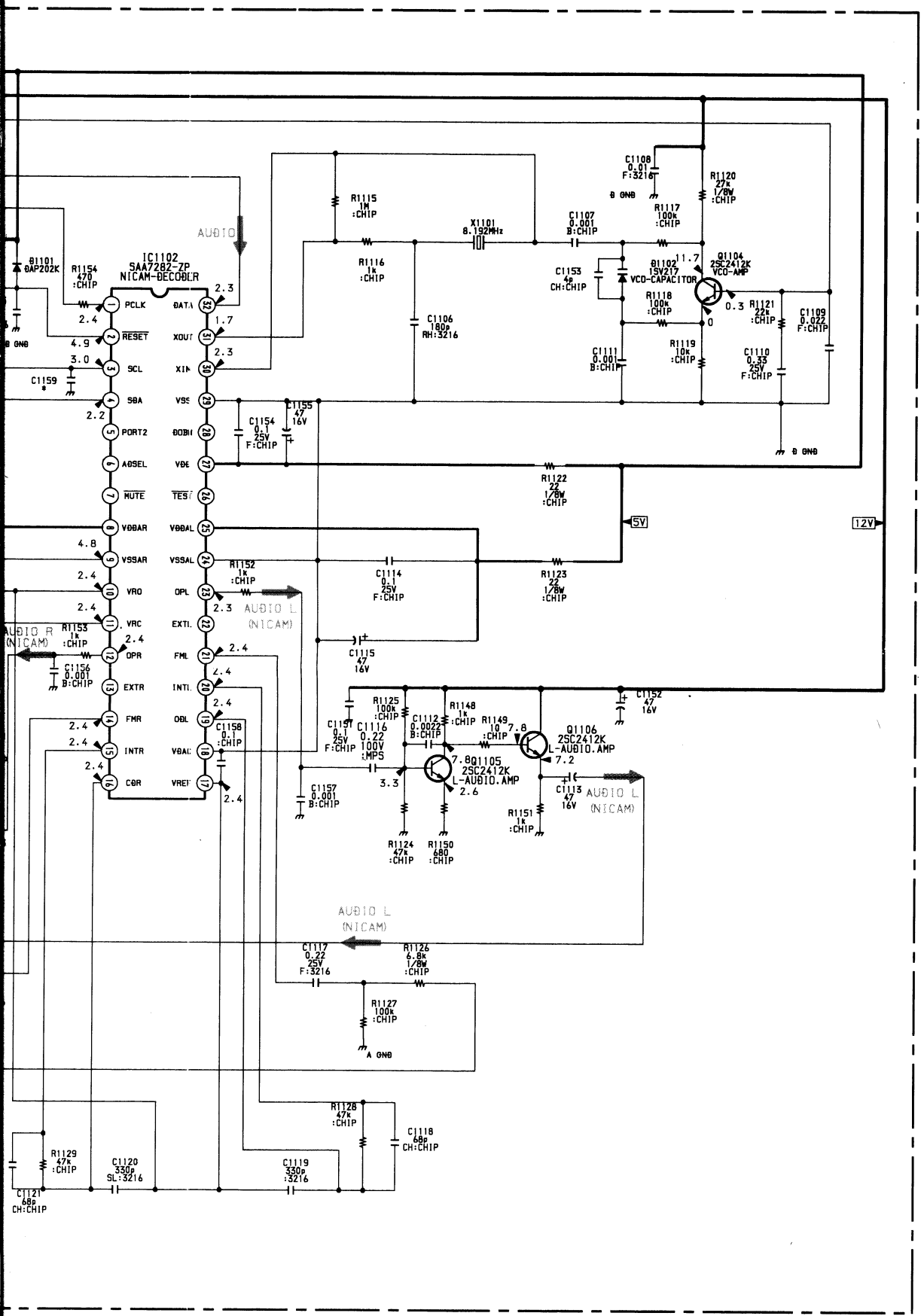


( NICAM DEMODULATOR )  
( NICAM DECODER )

(Spanish, UK model only)



B-SS4536<AEP>-VM.

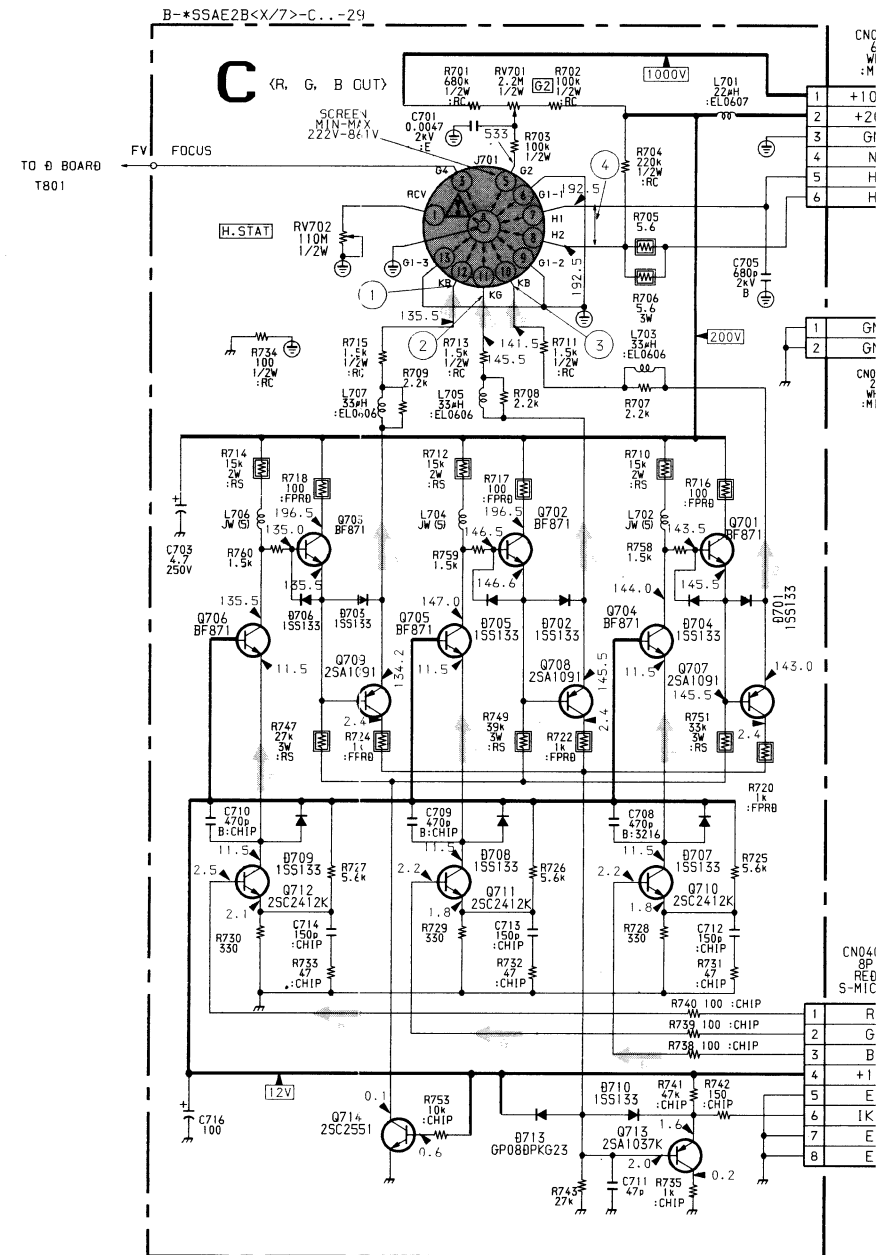
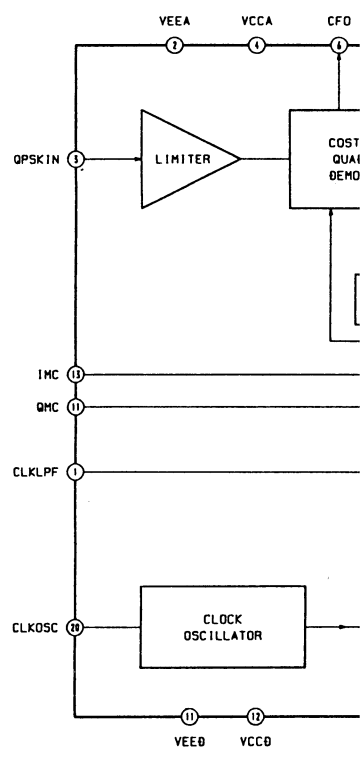


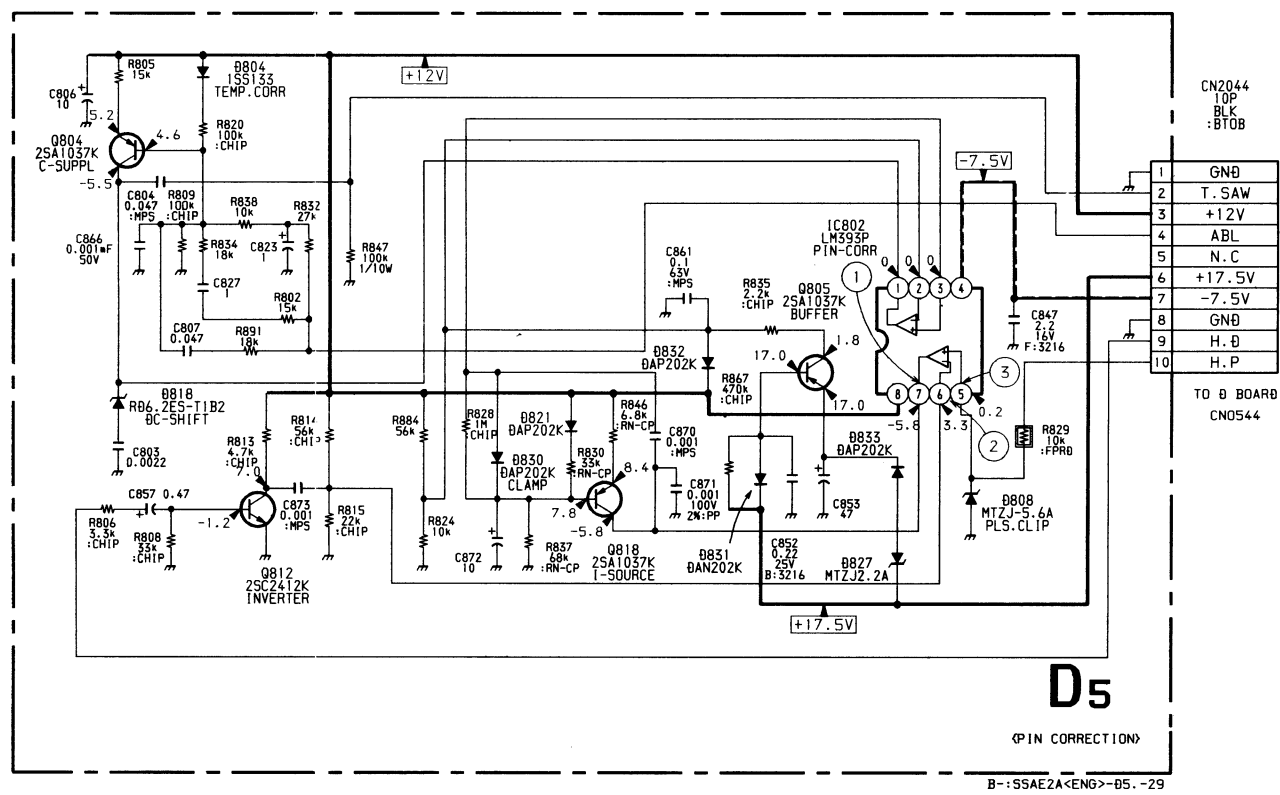
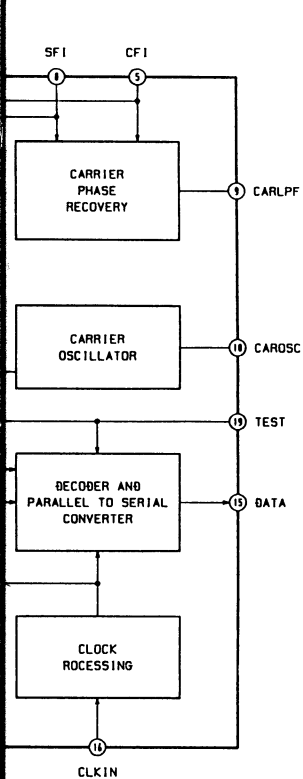
B-SS4536<AEP>-A1.

A1 BOARD \* MARK

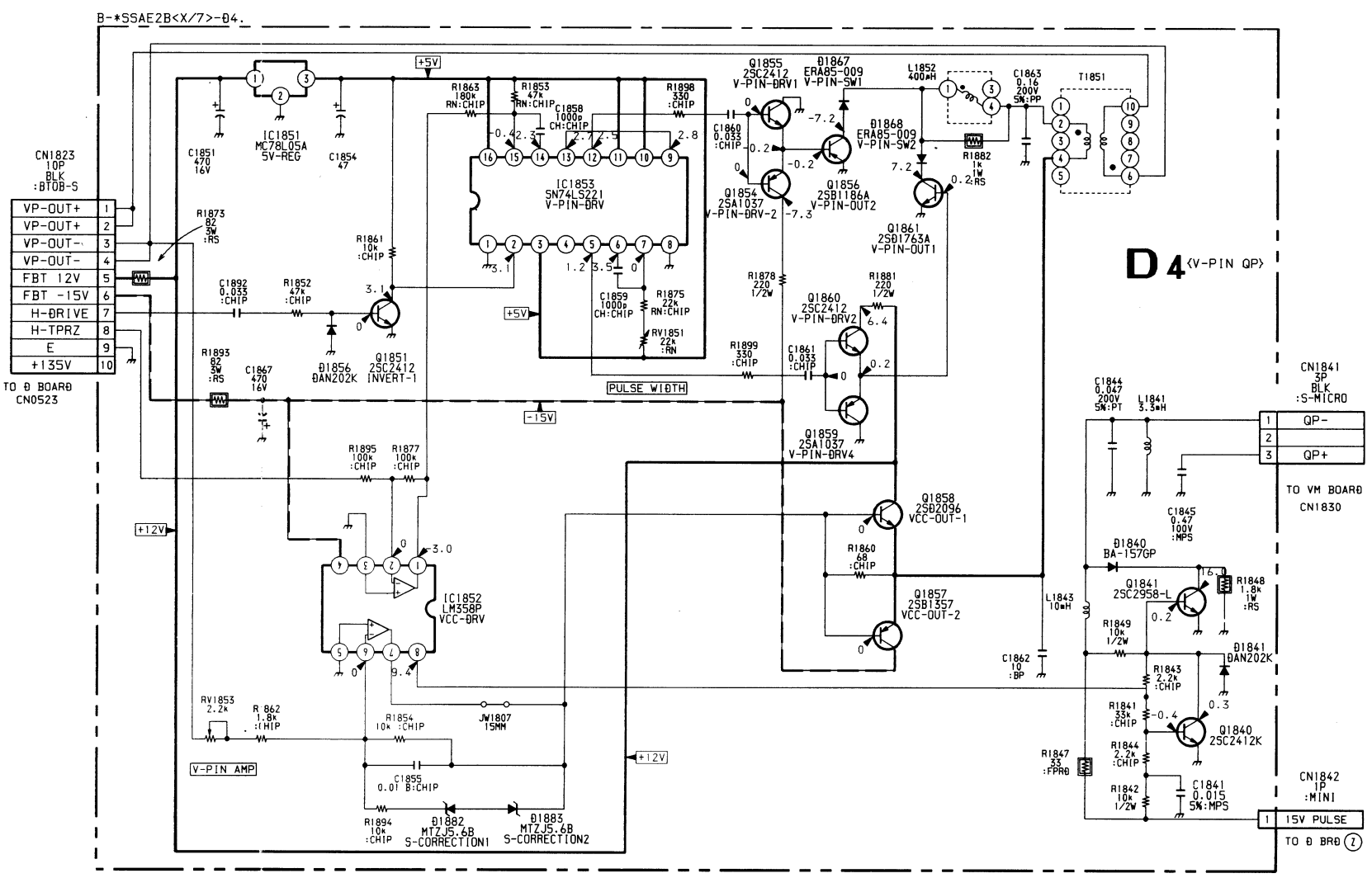
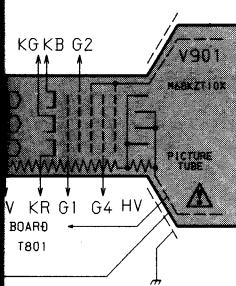
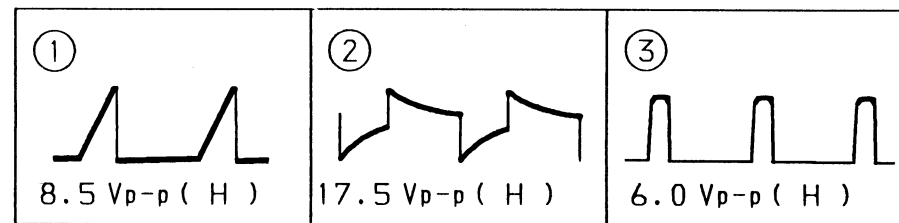
Model	KV-X2973E	KV-X2972U
BP1101	5.850MHz	6.552MHz
C1159	-	47P
CF1101	-	6.0MHz
CF1102	5.5MHz	-
JR1101	0 : CHIP	-
L1105	-	15MMh
X1102	11.700MHz	13.104MHz

• A1 BOARD IC1101 TD

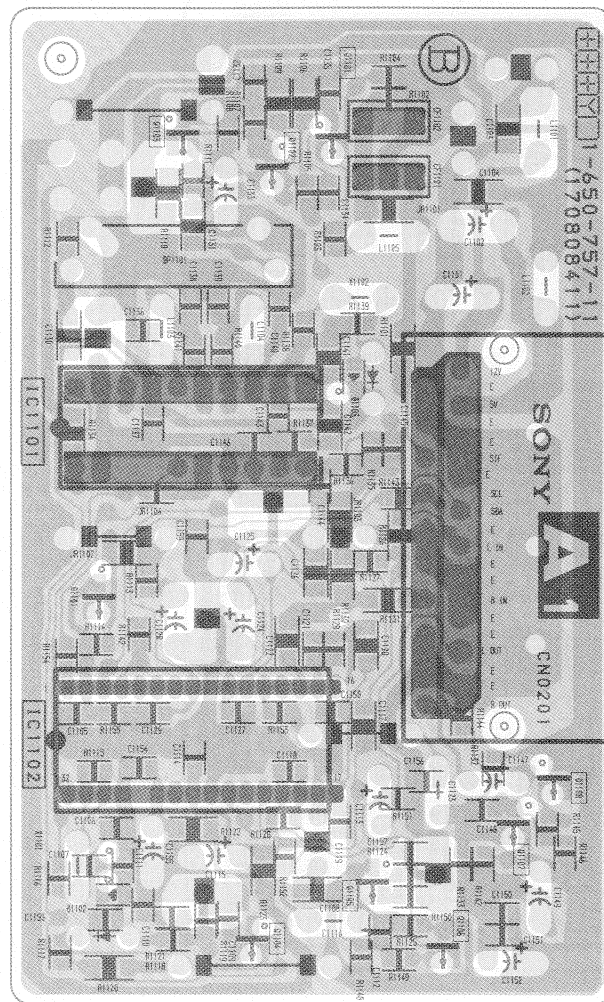




• WAVEFORMS D5 BOARD



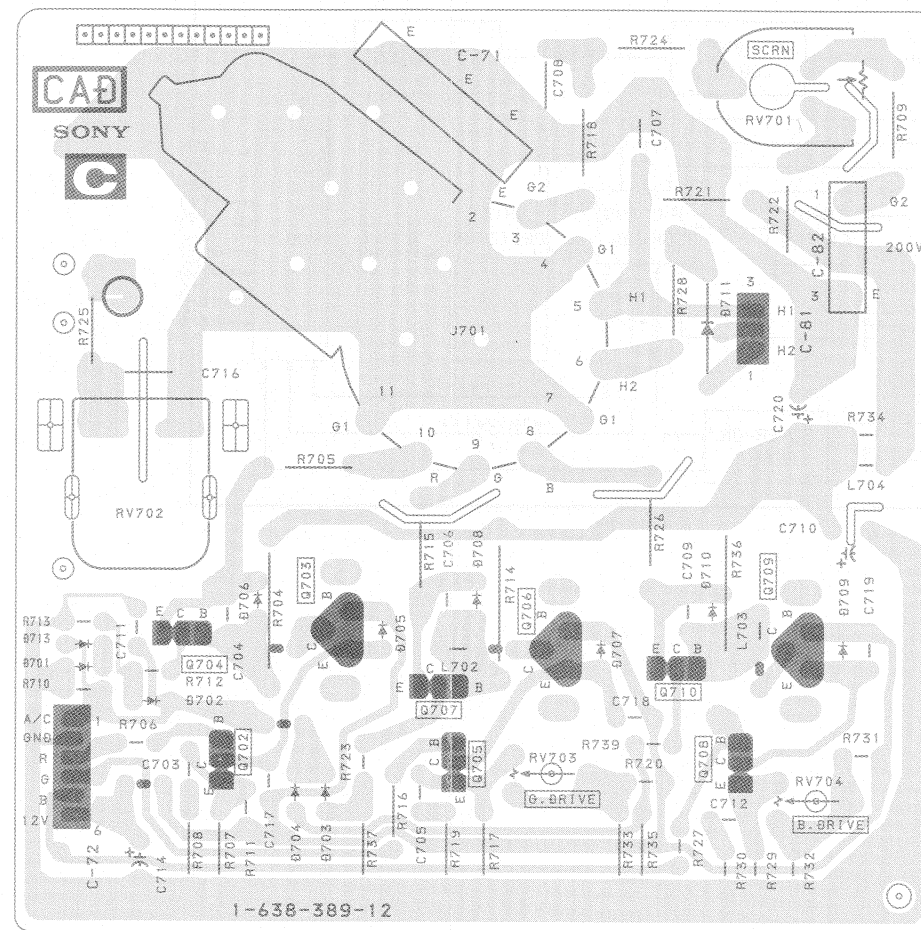
— A1 BOARD — (Spanish, UK Model only)



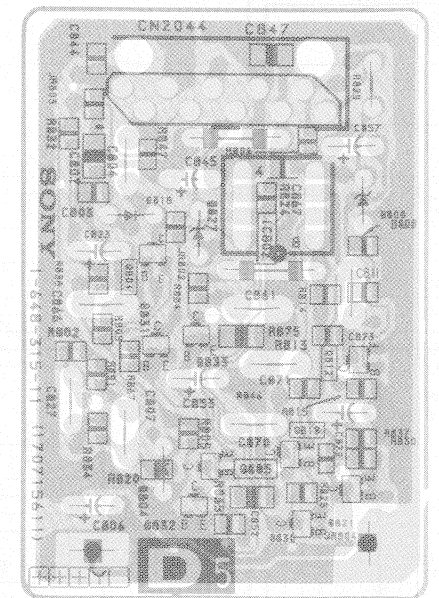
Note :

- Pattern from the side which enables seeing.
- Pattern of the rear side.

— C BOARD —



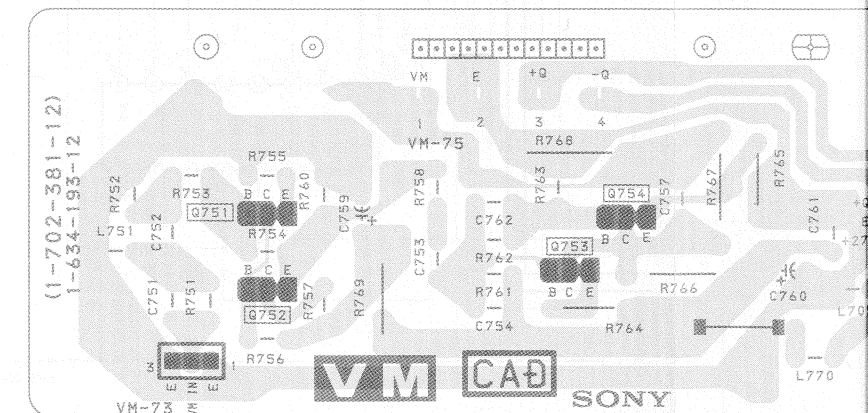
— D5 BOARD —



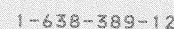
Note :

- Pattern from the side which enables seeing.
- Pattern of the rear side.

— VM BOARD —

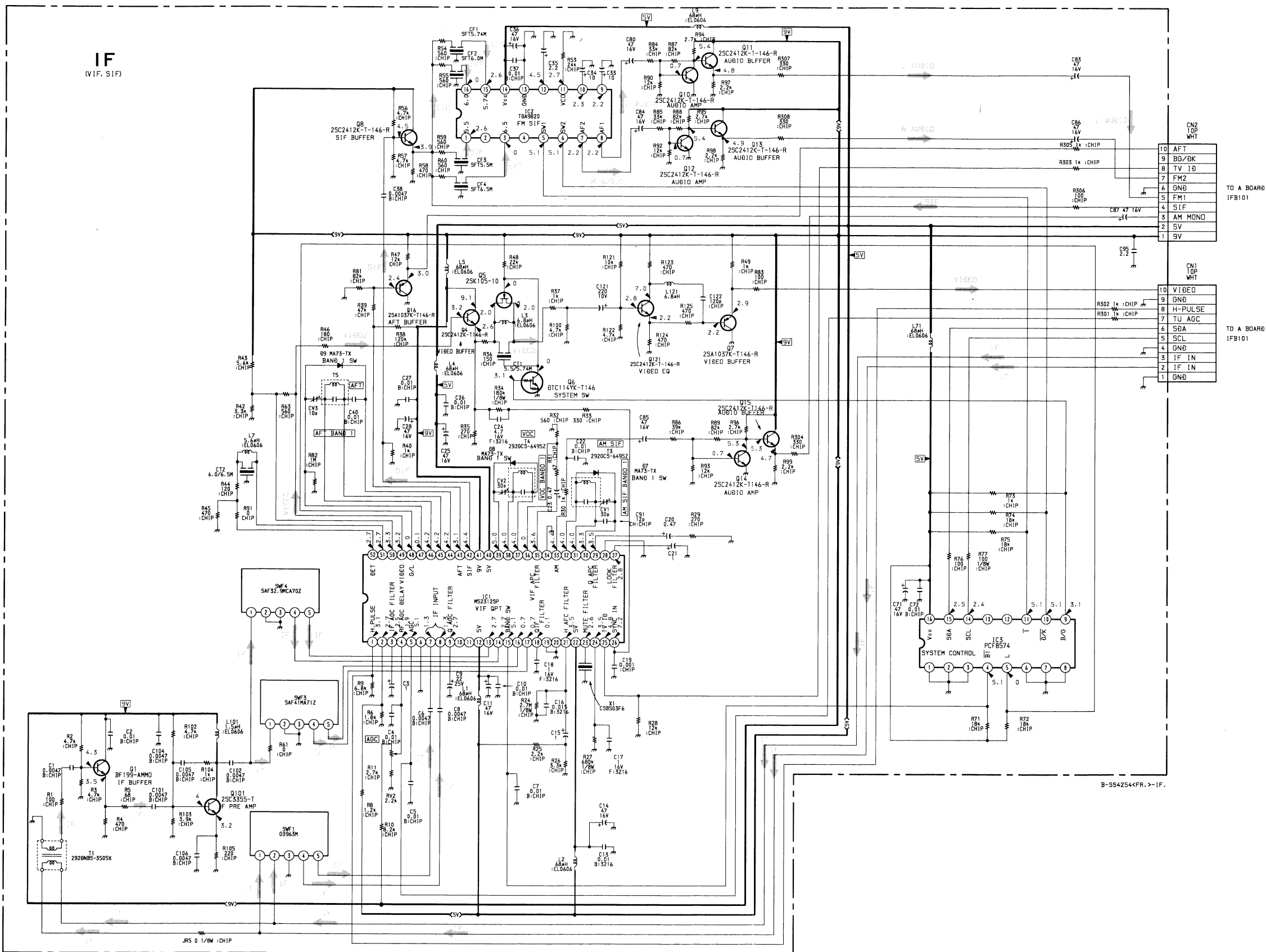




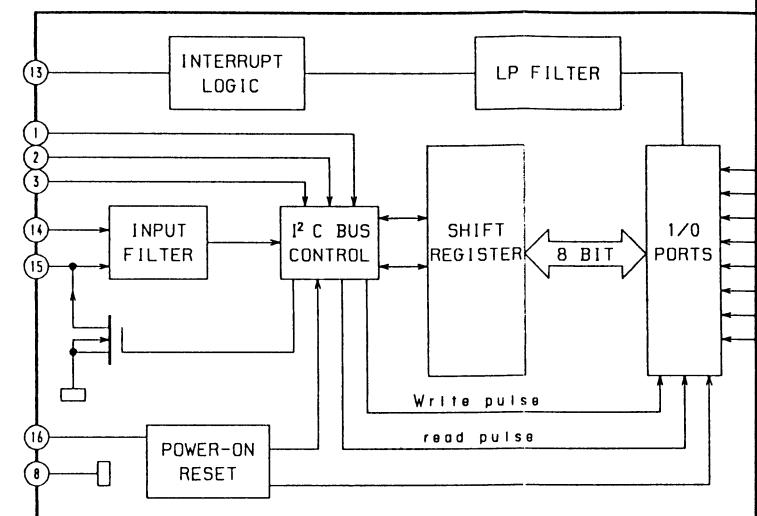


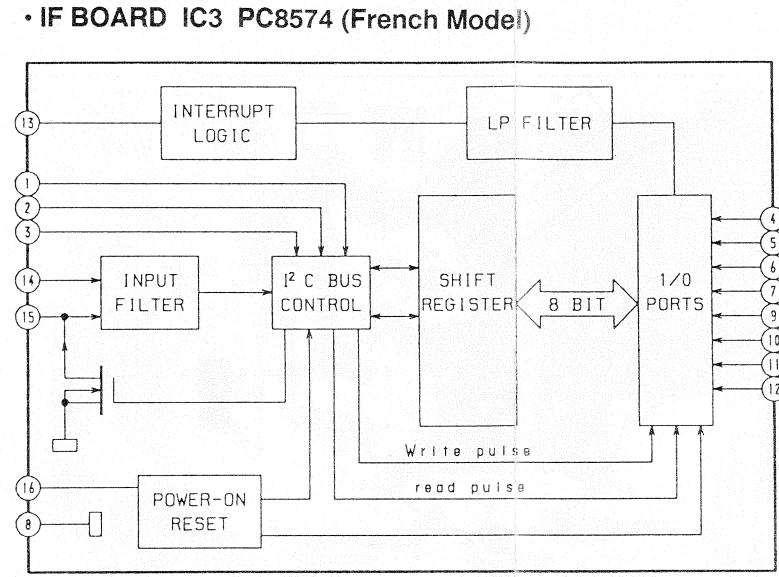
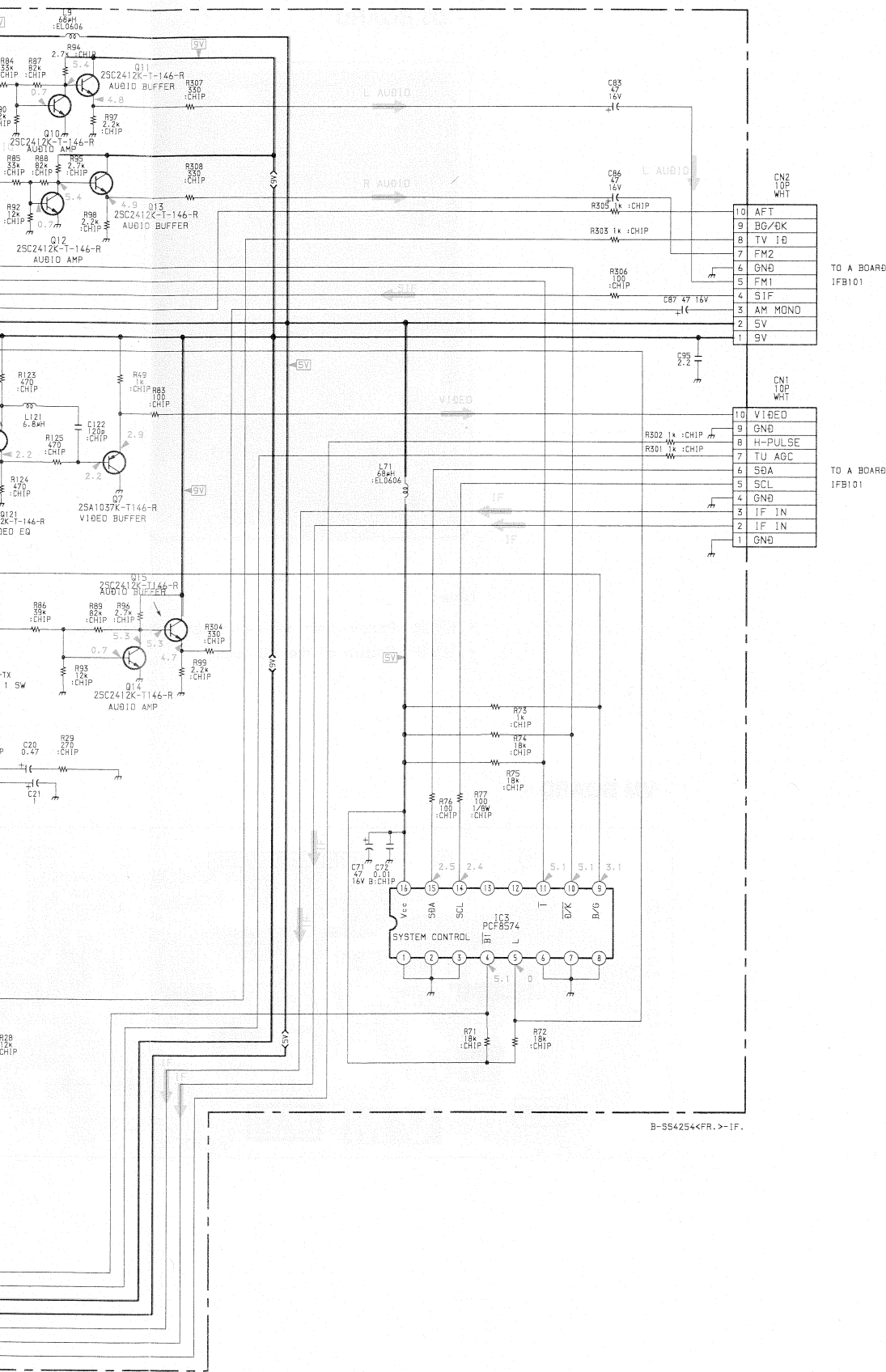
- **Side pattern** : Pattern from the side which enables seeing.
- **Rear pattern** : Pattern of the rear side.

### IFH389F (French Model)

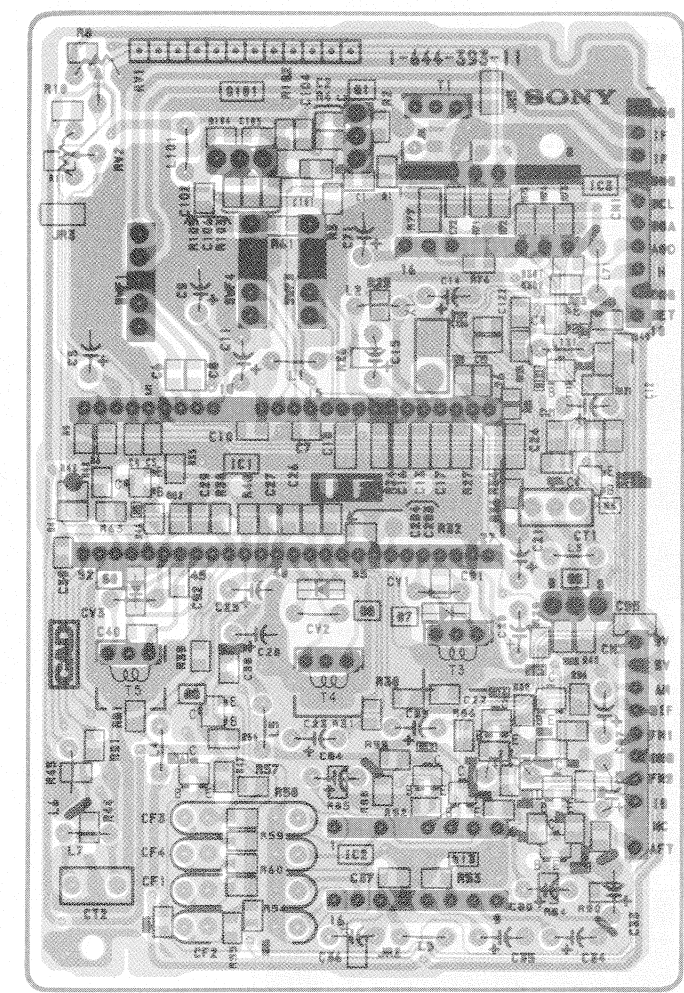


- IF BOARD IC3 PC8574 (French Model)





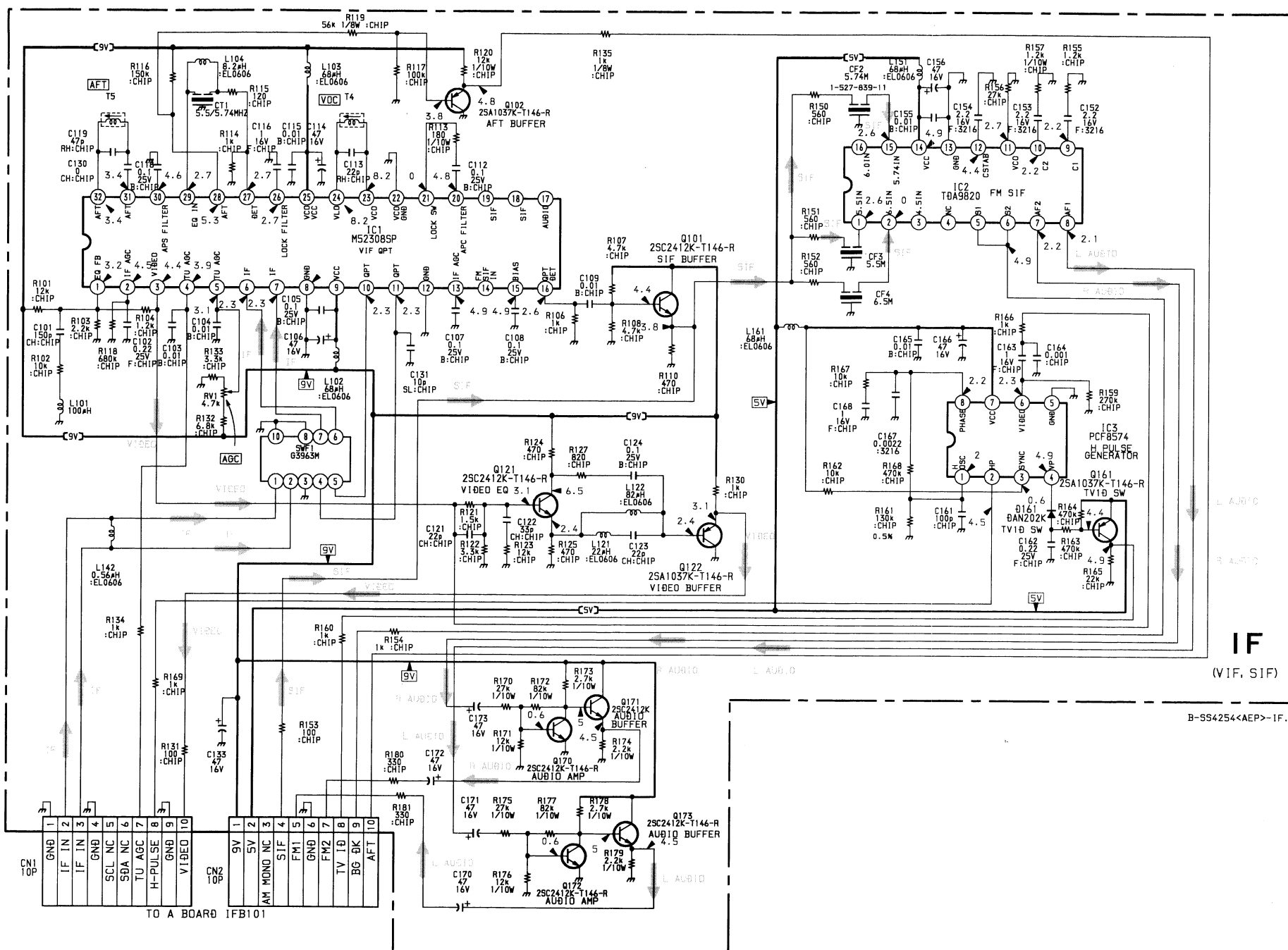
IF [ VIF, SIF ]



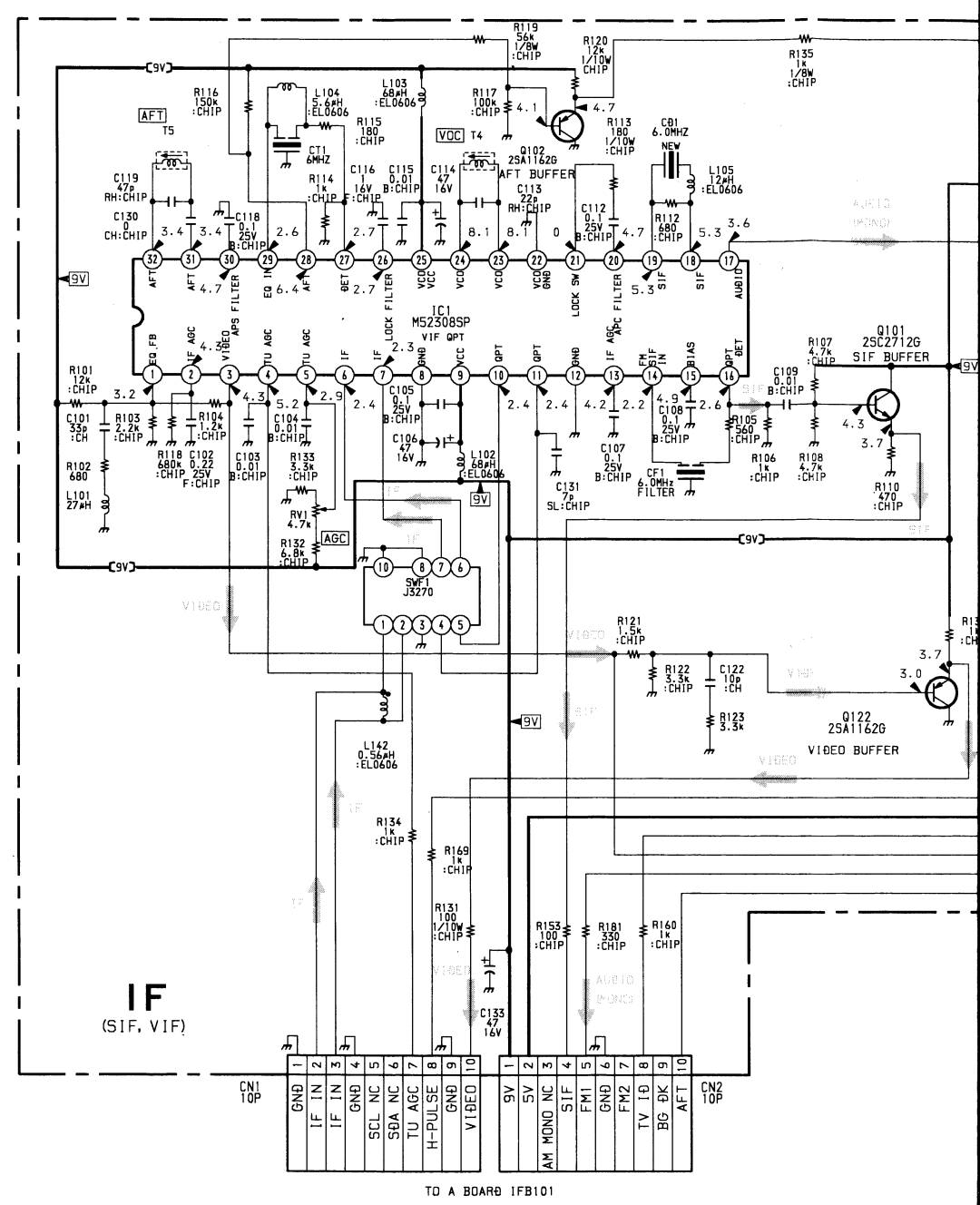
Note :

- Pattern from the side which enables seeing.
- Pattern of the rear side.

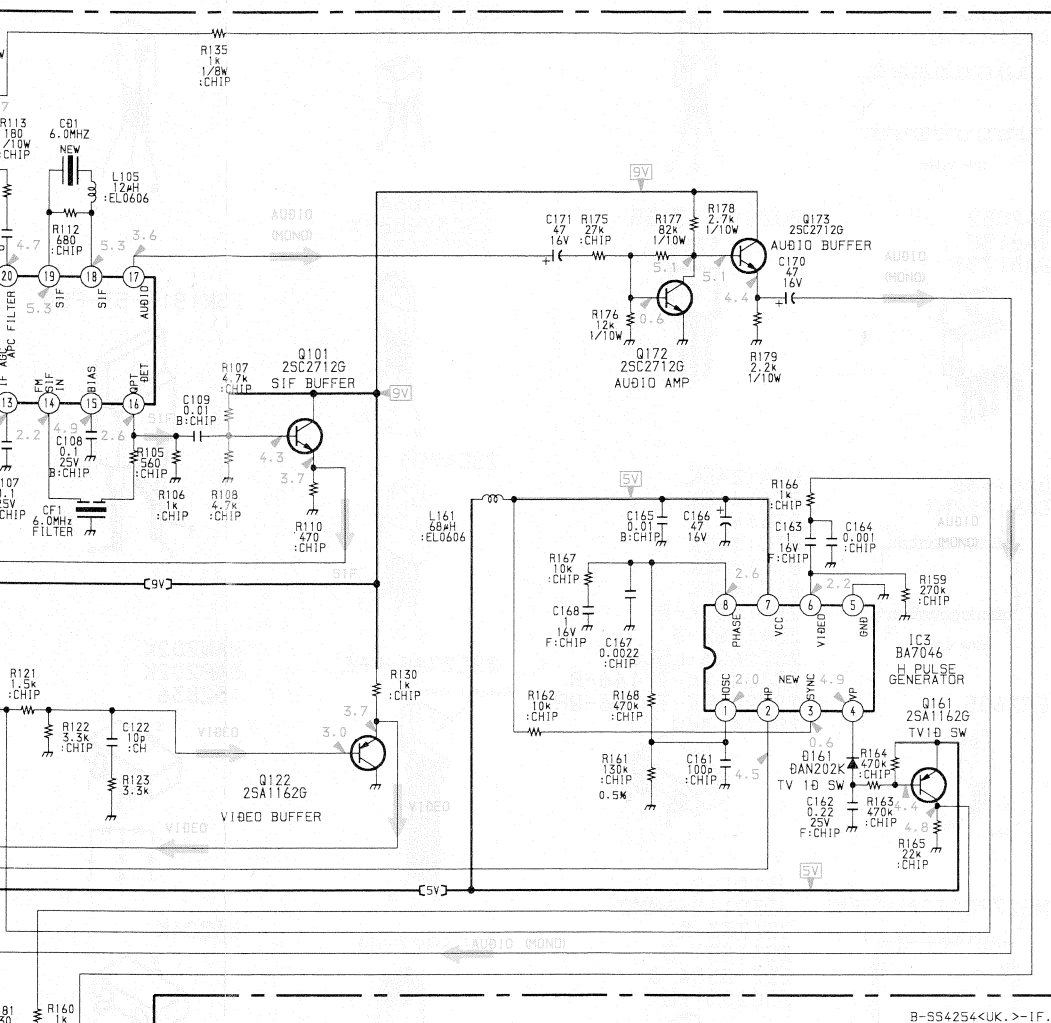
# IFH389 (AEP, Italian, Spanish Model)



# IFH385 (UK Model)

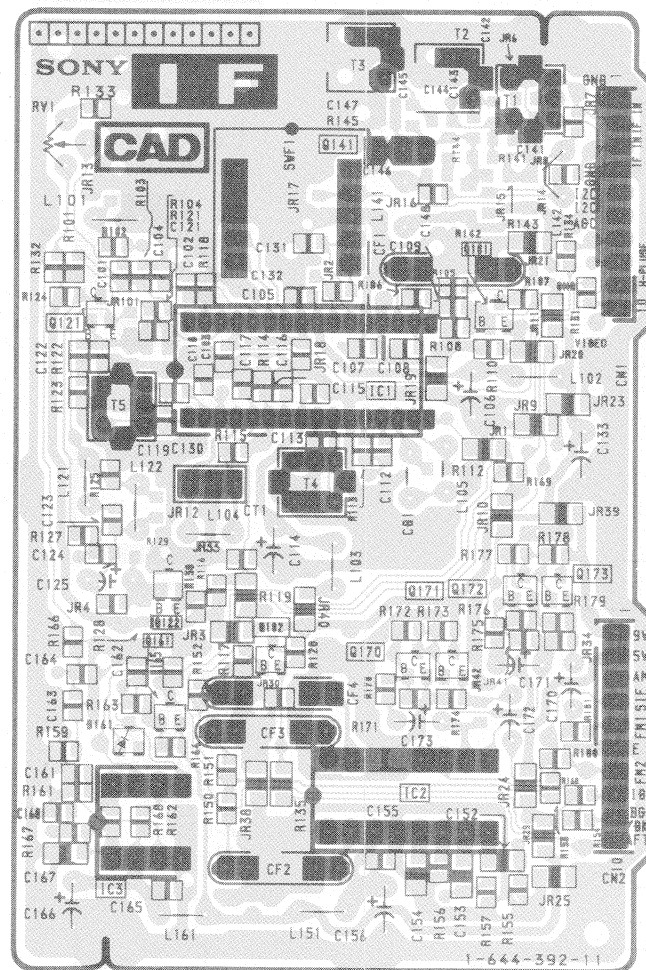




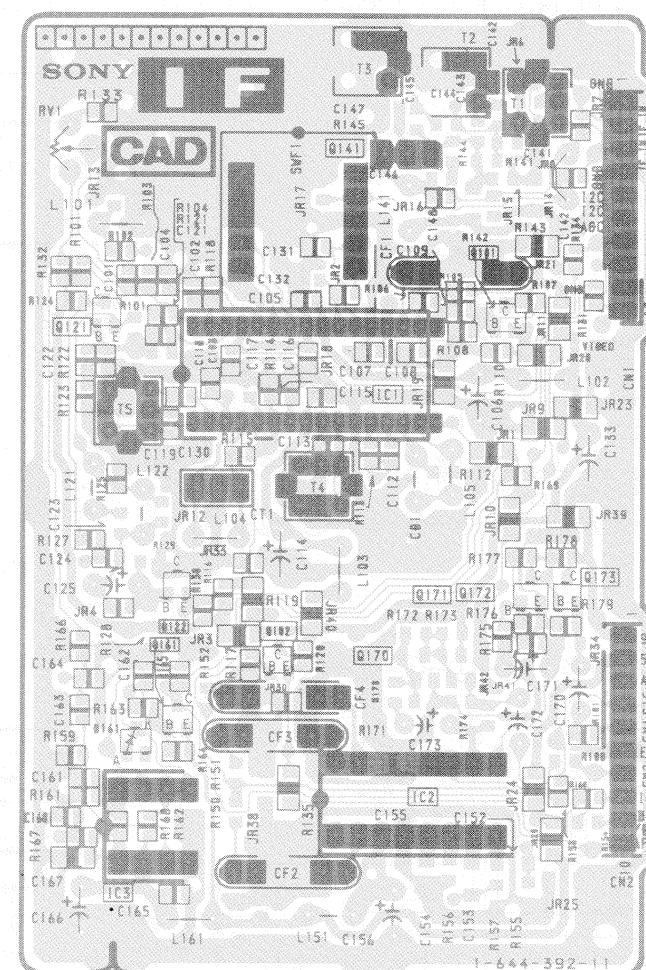


B-SS4254<UK.>-IF.

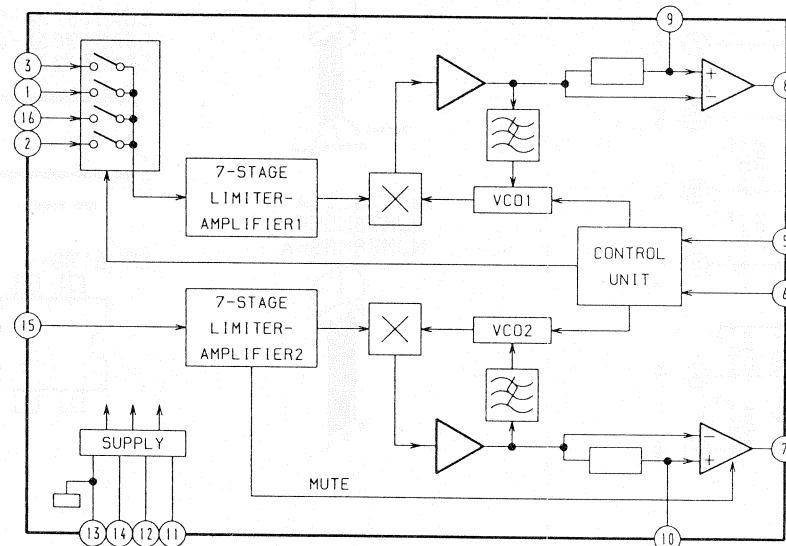
– IF BOARD – (AEP, Italian, Spanish Model)



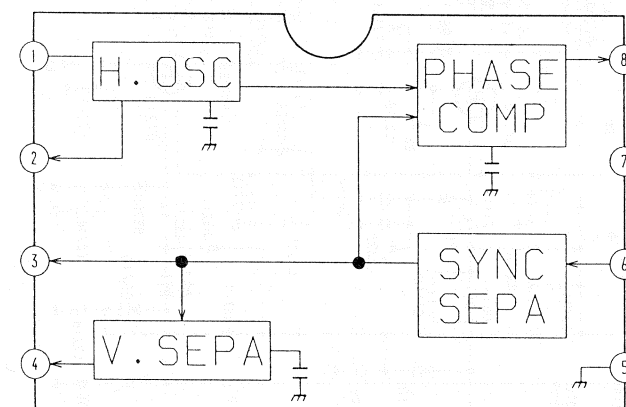
– IF BOARD – (UK Model)



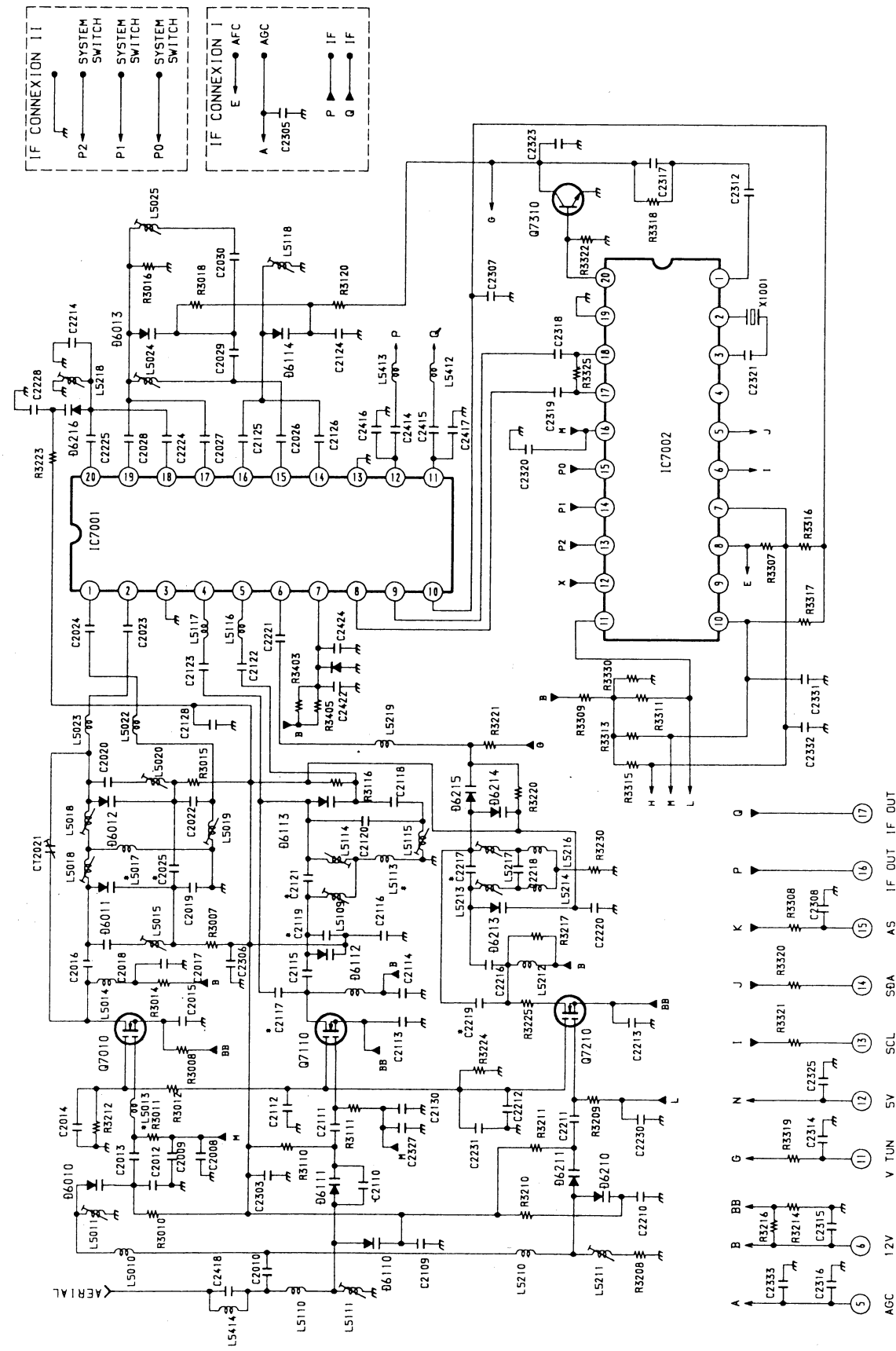
• IF BOARD IC2 TDA9820 (AEP, Italian, Spanish Model)



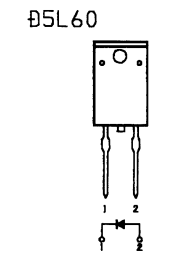
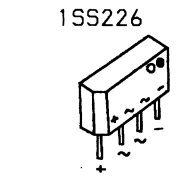
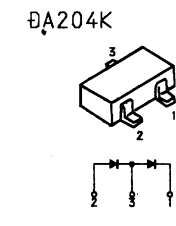
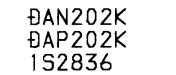
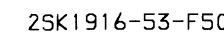
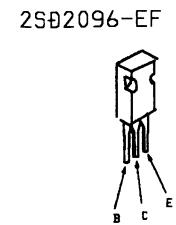
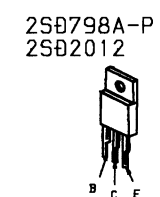
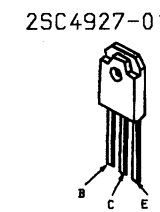
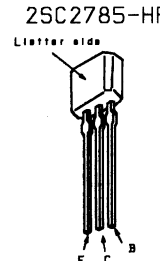
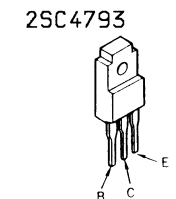
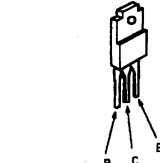
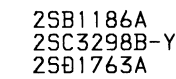
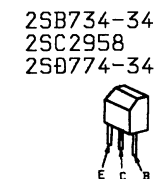
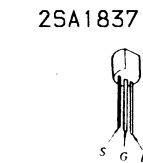
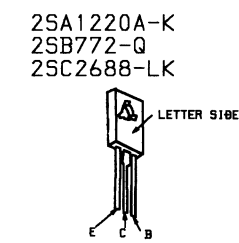
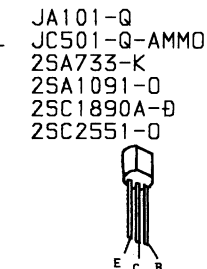
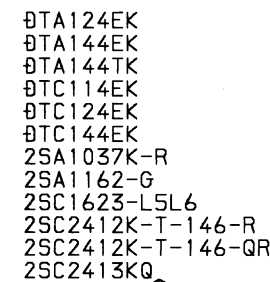
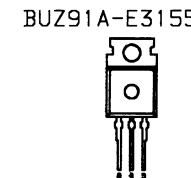
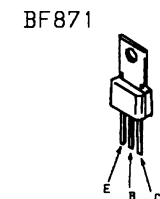
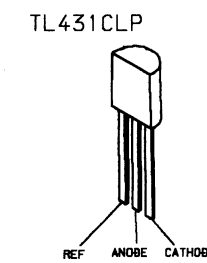
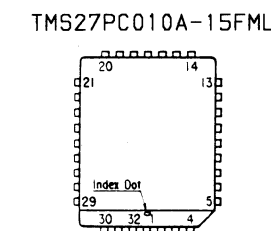
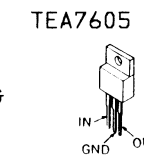
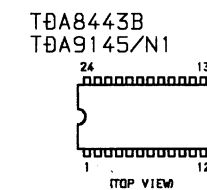
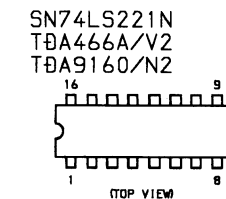
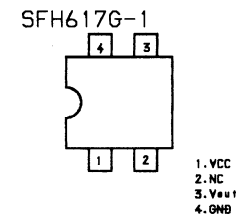
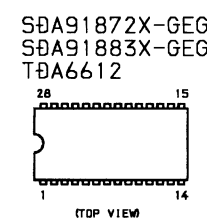
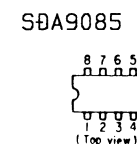
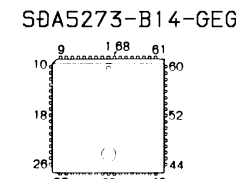
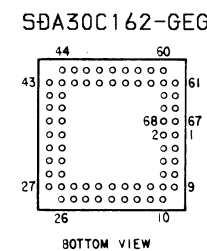
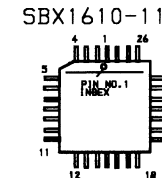
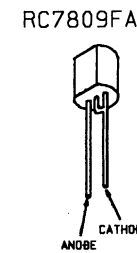
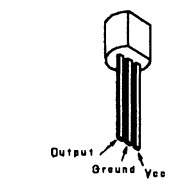
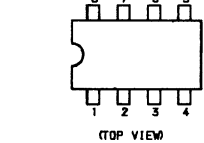
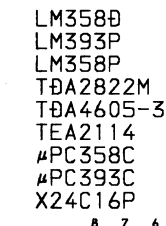
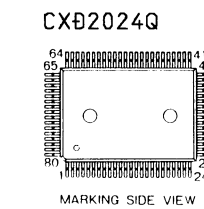
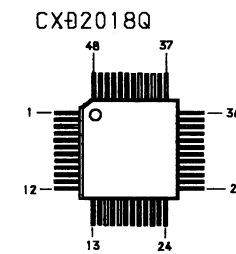
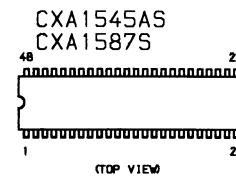
• IF BOARD IC3 BA7046 (AEP, Italian, Spanish Model)



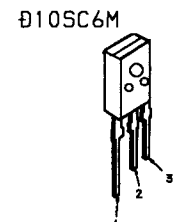
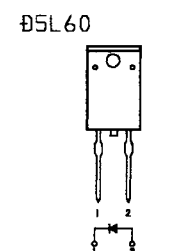
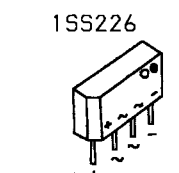
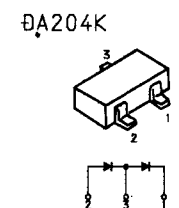
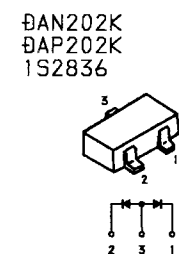
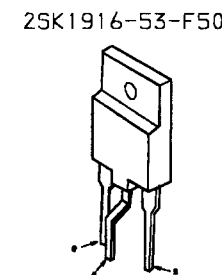
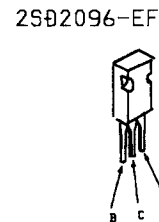
5-4. SCHEMATIC DIAGRAM OF TUNER  
A BOARD TU101 UV916H



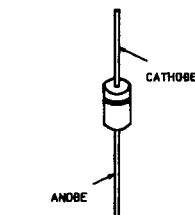
## 5-5. SEMICONDUCTORS



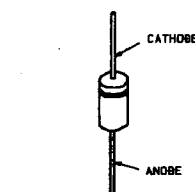
34  
34  
6A  
BB-Y  
3A  
C  
E  
C  
E  
C  
E  
-HFE  
B  
-01  
-P  
E  
E



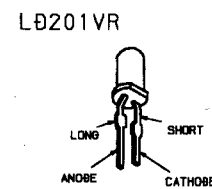
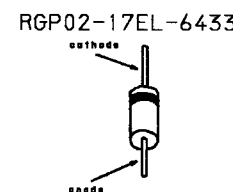
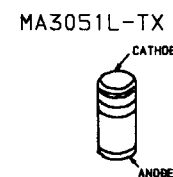
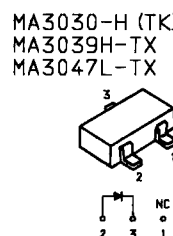
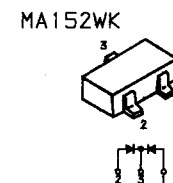
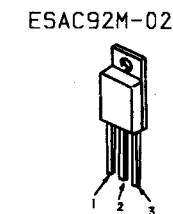
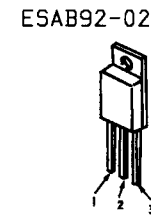
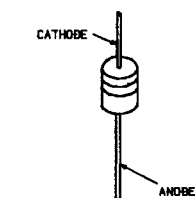
ØGP20G  
ERC25-06S  
RGP02-20EL-6394  
RU30ALFS1  
RU3AM



EL1Z  
ERB44-06  
GP08Ø  
RGP10GPKG23  
RGP15GPKG23  
R2K-V1  
1N4148A-T265



ERA85-009  
MTZJ-T-77-12B  
MTZJ-T-77-13C  
MTZJ-T-77-15A  
MTZJ-T-77-2.2A  
MTZJ-T-77-3.6A  
MTZJ-T-77-30B  
MTZJ-T-77-33C  
MTZJ-T-77-39C  
MTZJ-T-77-5.6A  
MTZJ-T-77-5.6B  
MTZJ-T-77-7.5A  
MTZJ-T-77-9.1  
MTZN-1013  
RØ12ES-B2  
RØ5.6ES-B1  
RØ5.6ES-B2  
RØ6.2ES-B2  
RØ7.5ES-B2



## SECTION 6 EXPLODED VIEWS

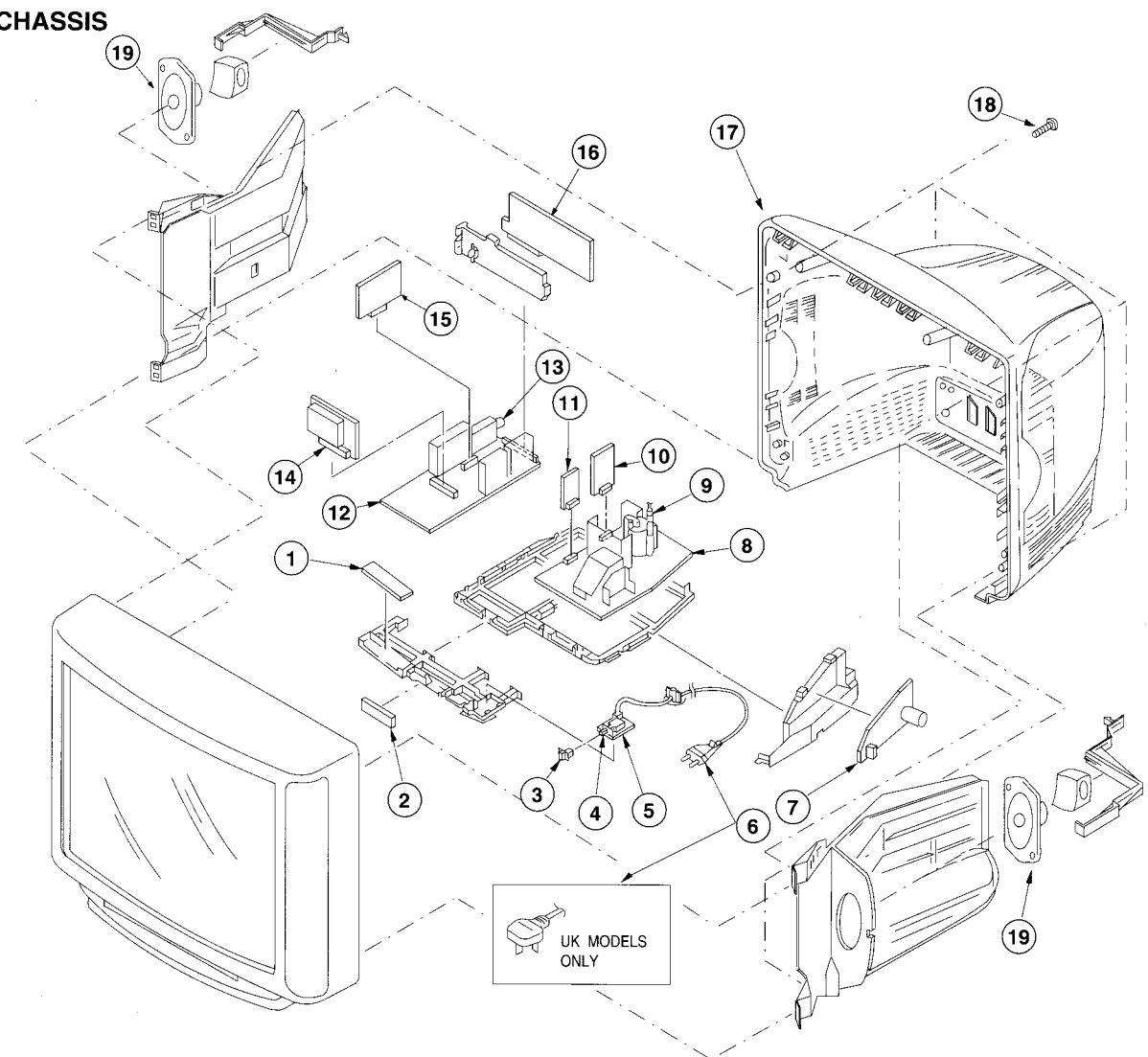
### NOTE :

- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remarks column.

- Items marked " \* " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

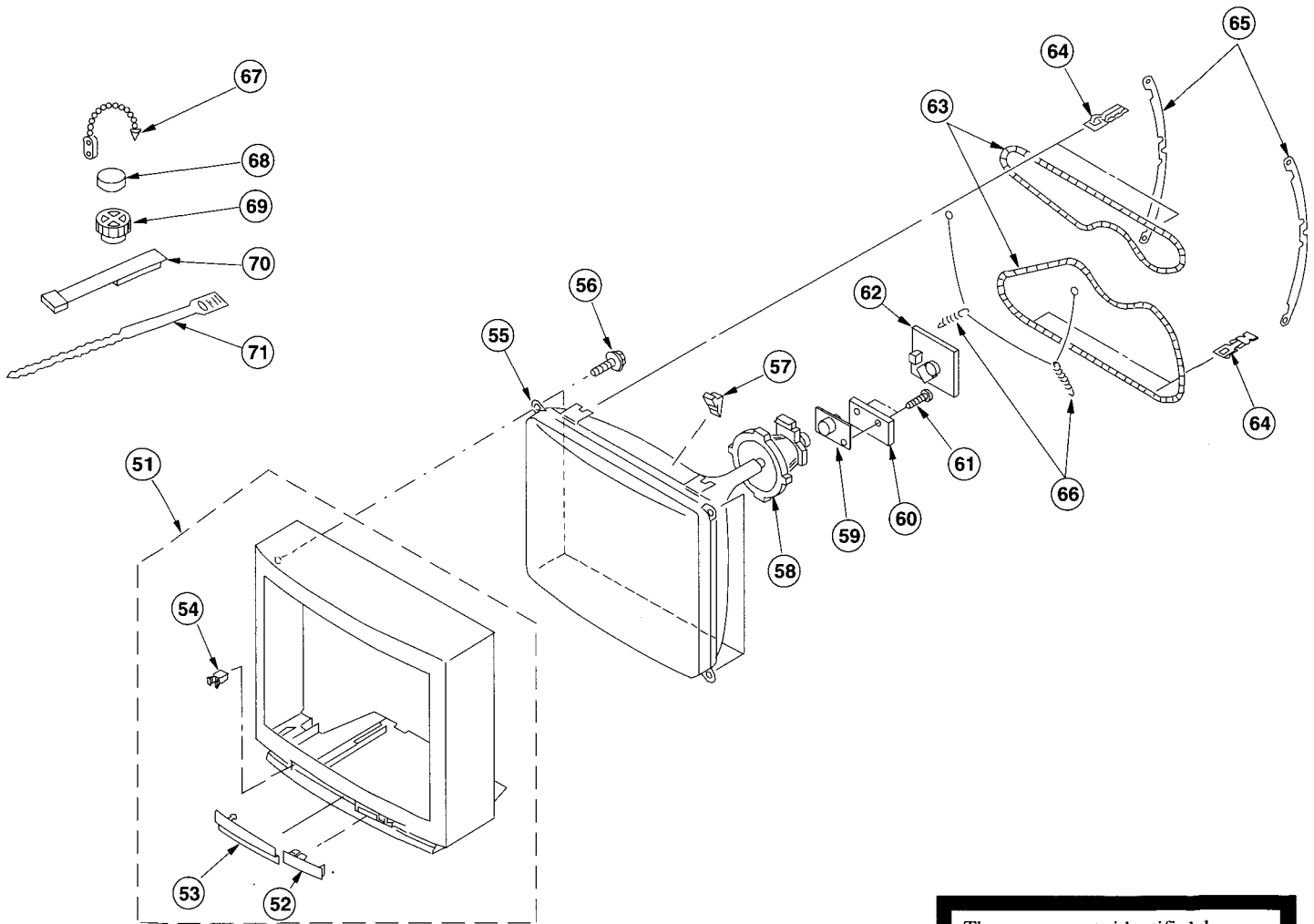
The components identified by shading and marked ! are critical for safety.  
Replace only with the part number specified.


### 6-1. CHASSIS



REF NO	PART NO	DESCRIPTION	REMARK	REF NO	PART NO	DESCRIPTION	REMARK
1	*A-1646-045-A	H1 BOARD, COMPLETE		11	*A-1640-109-A	D5 BOARD, COMPLETE	
2	*1-650-759-11	H2 BOARD		12	*A-1632-170-A	A BOARD, COMPLETE	
3	4-202-637-01	BUTTON, POWER				(KV-X2971A, X2921D, X2971K)	
4	* 1-571-433-11	SWITCH, PUSH (AC POWER)			*A-1632-183-A	A BOARD, COMPLETE (KV-X2971B)	
5	*1-648-312-11	F1 BOARD			*A-1632-177-A	A BOARD, COMPLETE (KV-X2972U)	
6	* 1-751-680-11	CORD, POWER (WITH NOISE FILTER)			*A-1632-180-A	A BOARD, COMPLETE (KV-X2973E)	
		(KV-X2971A, X2971D, X2971K)		13	1-693-184-11	TUNER (U944C) (KV-X2972U)	
	* 1-690-270-21	CORD, POWER (WITH CONNECTOR)			1-693-185-11	TUNER (UV916H) (KV-X2971B, X2971D, X2971K, X2973E, X2971A)	
	* 1-590-762-11	CORD, POWER (WITH PLUG) (KV-X2922U)		14	*A-1635-015-A	M2 BOARD, COMPLETE	
7	*A-1624-018-A	F2 BOARD, COMPLETE		15	*A-1632-178-A	A1 BOARD, COMPLETE (KV-X2972U)	
8	*A-1642-097-A	D BOARD, COMPLETE			*A-1632-179-A	A1 BOARD, COMPLETE (KV-X2973E)	
9	* 1-453-153-11	TRANSFORMER ASSY, FLYBACK (NX-JU2602A2)		16	*A-1651-057-A	J BOARD, COMPLETE	
10	*A-1642-116-A	D4 BOARD, COMPLETE		17	4-043-530-01	COVER REAR	
				18	4-039-358-11	SCREW (4x16), (+) BV TAPPING	
				19	1-544-728-11	SPEAKER	

## 6-2. PICTURE TUBE



The components identified by shading and marked  are critical for safety.

Replace only with the part number specified.

REF NO	PART NO	DESCRIPTION	REMARK	REF NO	PART NO	DESCRIPTION	REMARK
51	4-4031-666-1	CABINET ASSY (WITH BEZEL ASSY)	52-54	62	*A-1638-042-A	C BOARD, COMPLETE	
52	4-202-643-01	WINDOW, ORNAMENTAL		63	1-406-807-21	COIL, DEGAUSSING	
53	4-202-642-01	DOOR		64	4-202-415-01	CLIP, DGC (29")	
54	4-392-036-01	CATCHER, PUSH		65	4-202-416-01	BAND, DGC	
55	8-733-841-05	PICTURE TUBE (M68KZT10X)		66	4-200-433-01	SPRING, EXTENSION	
56	4-036-188-01	SCREW (M), PT		67	4-308-870-00	CLIP, LEAD WIRE	
57	3-704-495-01	SPACER, DY		68	1-452-032-00	MAGNET, DISK; 10MM	
58	8-451-422-11	DEFLECTION YOKE (Y29GX)		69	1-452-094-00	MAGNET, ROTATABLE DISK; 15MM	
59	1-452-509-11	NECK ASSY, PICTURE TUBE (NA308)		70	X-4306-312-0	PERMALLOY ASSY, CONVERGENCE	
60	*A-1644-040-A	VM BOARD, COMPLETE		71	3-701-007-00	BAND, BINDING	
61	4-039-357-01	SCREW 3x8, BV TAPPING					

## ELECTRICAL PARTS LIST

## SECTION 7

The components identified by shading and marked  $\Delta$  are critical for safety.  
Replace only with the part number specified.

- Items marked " \* " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

When indicating parts by reference number, please include the board name.

## CAPACITORS

## COILS

MF : mF, PF : mmF

MMH : mH,  $\mu$ H :

- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

## RESISTORS

- All resistors are in ohms
- F : nonflammable

F2

F1

A1 (KV-X2972U  
KV-X2973E)

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
	*A-1624-018-A	F2 BOARD, COMPLETE (KV-X2971A, X2971D, X2971K)		R671	1-249-417-11	CARBON 1K 5% 1/4W F	
	*A-1624-036-A	F2 BOARD, COMPLETE (KV-X2971B, X2973E, X2972U)			< RELAY >		
	< CAPACITOR >			RY661 $\Delta$	1-515-720-31	RELAY	
					< THERMISTOR >		
C661 $\Delta$	1-136-519-12	FILM 0.47MF 20% 300V		THP661 $\Delta$	1-809-827-11	THERMISTOR, POSITIVE	
C662 $\Delta$	1-136-518-12	FILM 0.33MF 20% 300V			*****		
C664 $\Delta$	1-164-503-61	CERAMIC 0.0022MF 20% 400V			*1-648-312-11	F1 BOARD	
C666	1-124-479-11	ELECT 330MF 20% 25V			*****		
C667	1-126-337-11	ELECT 22MF 20% 50V			< CONNECTOR >		
C672 $\Delta$	1-161-964-61	CERAMIC 0.0047MF 250V		CN0003 $\Delta$	*1-580-844-11	PIN, CONNECTOR (POWER)	
C673 $\Delta$	1-161-964-61	CERAMIC 0.0047MF 250V		CN0831 $\Delta$	*1-695-292-11	PIN, CONNECTOR (POWER)	
C674	1-125-555-11	ELECT 330MF 20% 400V			< FUSE >		
	< CONNECTOR >			F651 $\Delta$	1-576-232-21	FUSE (H.B.C.) 5A/250V	
CN0005	1-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P			< SWITCH >		
CN0007	1-508-786-00	PIN, CONNECTOR (5MM PITCH) 2P		S651 $\Delta$	1-571-433-11	SWITCH, PUSH (AC POWER)	
CN0924	*1-568-878-51	PIN, CONNECTOR 3P			*****		
CN0925	*1-695-294-11	PIN, CONNECTOR (PC BOARD) 6P			*A-1632-179-A	A1 BOARD, COMPLETE (KV-X2973E)	
CN0929	1-508-784-00	PIN, CONNECTOR (5MM PITCH) 1P			*****		
CN0931 $\Delta$	*1-691-291-11	PIN, CONNECTOR (PC BOARD) 5P			*A-1632-178-A	A1 BOARD, COMPLETE (KV-X2972U)	
	< DIODE >				*****		
D661	8-719-901-33	DIODE 1SS133			< CAPACITOR >		
D663	8-719-510-53	DIODE D4SB60L		C1101	1-126-101-11	ELECT 100MF 20% 16V	
D664	8-719-109-89	DIODE RD5.6ESB2		C1102	1-126-101-11	ELECT 100MF 20% 16V	
	< TRANSFORMER >			C1103	1-163-077-00	CERAMIC CHIP 0.1MF 10% 25V	
LF661 $\Delta$	1-423-688-11	TRANSFORMER, LINE FILTER (LFT)		C1104	1-163-077-00	CERAMIC CHIP 0.1MF 10% 25V	
LF662 $\Delta$	1-424-391-11	TRANSFORMER, LINE FILTER (KV-X2971A, X2971D, X2971K)		C1105	1-164-489-11	CERAMIC CHIP 0.22MF 10% 16V	
	< TRANSISTOR >			C1106	1-163-383-91	CERAMIC CHIP 180PF 5% 50V	
Q661	8-729-920-74	TRANSISTOR 2SC2412K-QR		C1107	1-163-009-11	CERAMIC CHIP 0.001MF 10% 50V	
	< RESISTOR >			C1108	1-163-059-00	CERAMIC CHIP 0.01MF 50V	
R663 $\Delta$	1-244-945-91	CARBON 1M 5% 1/2W		C1109	1-163-033-00	CERAMIC CHIP 0.022MF 50V	
R664 $\Delta$	1-205-949-11	WIREWOUND 1.8 5% 10W		C1110	1-164-336-11	CERAMIC CHIP 0.33MF 25V	
R665 $\Delta$	1-218-265-11	METAL GLAZE 8.2M 5% 1W		C1111	1-163-009-11	CERAMIC CHIP 0.001MF 10% 50V	
R666	1-247-807-31	CARBON 100 5% 1/4W F		C1112	1-164-161-11	CERAMIC CHIP 0.0022MF 10% 50V	
R667	1-249-430-11	CARBON 12K 5% 1/4W		C1113	1-124-477-11	ELECT 47MF 20% 16V	
R668	1-249-436-11	CARBON 39K 5% 1/4W		C1114	1-163-038-00	CERAMIC CHIP 0.1MF 25V	
R669 $\Delta$	1-205-949-11	WIREWOUND 1.8 5% 10W		C1115	1-124-477-11	ELECT 47MF 20% 16V	

REF.NO.	PART NO.	DESCRIPTION	REMARK
C1116	1-106-228-00	MYLAR 0.22MF	10% 100V
C1117	1-163-081-00	CERAMIC CHIP 0.22MF	25V
C1118	1-163-113-00	CERAMIC CHIP 68PF	5% 50V
C1119	1-163-129-00	CERAMIC CHIP 330PF	5% 50V
C1120	1-163-193-00	CERAMIC CHIP 330PF	5% 50V
C1121	1-163-113-00	CERAMIC CHIP 68PF	5% 50V
C1122	1-163-081-00	CERAMIC CHIP 0.22MF	25V
C1123	1-106-228-00	MYLAR 0.22MF	10% 100V
C1124	1-124-477-11	ELECT 47MF	20% 16V
C1125	1-124-477-11	ELECT 47MF	20% 16V
C1126	1-163-077-00	CERAMIC CHIP 0.1MF	10% 25V
C1127	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C1128	1-124-477-11	ELECT 47MF	20% 16V
C1129	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C1130	1-163-205-00	CERAMIC CHIP 0.001MF	10% 50V
C1131	1-163-059-00	CERAMIC CHIP 0.01MF	50V
C1132	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C1133	1-124-907-11	ELECT 10MF	20% 50V
C1134	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V
C1135	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C1136	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
C1137	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C1138	1-163-105-00	CERAMIC CHIP 33PF	5% 50V
C1139	1-163-105-00	CERAMIC CHIP 33PF	5% 50V
C1140	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
C1141	1-163-205-00	CERAMIC CHIP 0.001MF	10% 50V
C1142	1-163-057-00	CERAMIC CHIP 0.0068MF	50V
C1143	1-163-003-11	CERAMIC CHIP 330PF	10% 50V
C1144	1-163-121-00	CERAMIC CHIP 150PF	5% 50V
C1145	1-163-121-00	CERAMIC CHIP 150PF	5% 50V
C1146	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C1147	1-124-477-11	ELECT 47MF	20% 16V
C1148	1-164-161-11	CERAMIC CHIP 0.0022MF	10% 50V
C1149	1-124-477-11	ELECT 47MF	20% 16V
C1150	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C1151	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C1152	1-124-477-11	ELECT 47MF	20% 16V
C1153	1-163-087-00	CERAMIC CHIP 4PF	0.25PF 50V
C1154	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C1155	1-124-477-11	ELECT 47MF	20% 16V
C1156	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V
C1157	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V
C1158	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C1159	1-163-243-11	CERAMIC CHIP 47PF	5% 50V (KV-X2972U)

< FILTER >

BP1101	1-236-238-12	FILTER, BAND PASS (KV-X2972U)
	1-239-047-11	FILTER, BAND PASS (KV-X2973E)
CF1101	1-409-333-00	TRAP, CERAMIC (6.0MHZ) (KV-X2972U)
CF1102	1-404-134-00	TRAP, CERAMIC (5.5MHZ) (KV-X2973E)

< CONNECTOR >

CN0201	1-695-300-11	CONNECTOR, BOARD TO BOARD 20P
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< DIODE >

D1101	8-719-914-44	DIODE DAP202K
D1102	8-719-027-70	DIODE 1SV217-TPH3
D1103	8-719-820-71	DIODE 1SV214

REF.NO.	PART NO.	DESCRIPTION	REMARK
		< FERRITE BEAD >	
FB1101	1-410-396-41	FERRITE BEAD INDUCTOR 0.45UH	
FB1102	1-410-396-41	FERRITE BEAD INDUCTOR 0.45UH	
FB1103	1-410-396-41	FERRITE BEAD INDUCTOR 0.45UH	
FB1104	1-410-396-41	FERRITE BEAD INDUCTOR 0.45UH	
FB1105	1-410-396-41	FERRITE BEAD INDUCTOR 0.45UH	
		< IC >	
IC1101	8-759-511-88	IC TDA8732	
IC1102	8-759-184-28	IC SAA7282-ZP	
		< COIL >	
L1101	1-408-405-00	INDUCTOR 4.7UH	
L1102	1-408-405-00	INDUCTOR 4.7UH	
L1103	1-410-119-11	INDUCTOR 1MMH	
L1104	1-410-119-11	INDUCTOR 1MMH	
L1105	1-408-411-00	INDUCTOR 15UH (KV-X2972U)	
		< TRANSISTOR >	
Q1101	8-729-920-74	TRANSISTOR 2SC2412K-QR	
Q1102	8-729-920-74	TRANSISTOR 2SC2412K-QR	
Q1103	8-729-920-74	TRANSISTOR 2SC2412K-QR	
Q1104	8-729-920-74	TRANSISTOR 2SC2412K-QR	
Q1105	8-729-920-74	TRANSISTOR 2SC2412K-QR	
Q1106	8-729-920-74	TRANSISTOR 2SC2412K-QR	
Q1107	8-729-920-74	TRANSISTOR 2SC2412K-QR	
Q1108	8-729-920-74	TRANSISTOR 2SC2412K-QR	
		< RESISTOR >	
JR1101	1-216-296-91	METAL GLAZE 0 5% 1/8W (KV-X2973E)	
JR1102	1-216-296-91	METAL GLAZE 0 5% 1/8W	
JR1103	1-216-296-91	METAL GLAZE 0 5% 1/8W	
JR1104	1-216-295-91	METAL GLAZE 0 5% 1/10W	
R1101	1-216-188-00	METAL GLAZE 390 5% 1/8W	
R1102	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R1103	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R1104	1-216-041-00	METAL GLAZE 470 5% 1/10W	
R1105	1-216-005-00	METAL GLAZE 15 5% 1/10W	
R1106	1-216-185-00	METAL GLAZE 300 5% 1/8W	
R1107	1-216-042-00	METAL GLAZE 510 5% 1/10W	
R1108	1-216-063-00	METAL GLAZE 3.9K 5% 1/10W	
R1109	1-216-202-00	METAL GLAZE 1.5K 5% 1/8W	
R1110	1-216-196-00	METAL GLAZE 820 5% 1/8W	
R1111	1-216-041-00	METAL GLAZE 470 5% 1/10W	
R1112	1-216-051-00	METAL GLAZE 1.2K 5% 1/10W	
R1113	1-216-001-00	METAL GLAZE 10 5% 1/10W	
R1114	1-216-105-00	METAL GLAZE 220K 5% 1/10W	
R1115	1-216-121-00	METAL GLAZE 1M 5% 1/10W	
R1116	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R1117	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
R1118	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
R1119	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R1120	1-216-232-00	METAL GLAZE 27K 5% 1/10W	
R1121	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
R1122	1-216-158-00	METAL GLAZE 22 5% 1/10W	
R1123	1-216-158-00	METAL GLAZE 22 5% 1/10W	
R1124	1-216-089-91	METAL GLAZE 47K 5% 1/10W	
R1125	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
R1126	1-216-218-00	METAL GLAZE 6.8K 5% 1/10W	



REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
R1127	1-216-097-00	METAL GLAZE 100K 5%	1/10W	C207	1-137-613-11	FILM 0.0018MF	2% 100V
R1128	1-216-089-91	METAL GLAZE 47K 5%	1/10W	C208	1-164-005-11	CERAMIC CHIP 0.47MF	25V
R1129	1-216-089-91	METAL GLAZE 47K 5%	1/10W	C209	1-164-005-11	CERAMIC CHIP 0.47MF	25V
R1130	1-216-246-91	METAL GLAZE 100K 5%	1/8W	C210	1-164-005-11	CERAMIC CHIP 0.47MF	25V
R1131	1-216-218-00	METAL GLAZE 6.8K 5%	1/8W	C213	1-163-023-00	CERAMIC CHIP 0.015MF	10% 50V
R1132	1-216-097-00	METAL GLAZE 100K 5%	1/10W	C214	1-163-023-00	CERAMIC CHIP 0.015MF	10% 50V
R1133	1-216-089-91	METAL GLAZE 47K 5%	1/10W	C215	1-163-809-11	CERAMIC CHIP 0.047MF	10% 25V
R1134	1-216-212-00	METAL GLAZE 3.9K 5%	1/8W	C216	1-163-809-11	CERAMIC CHIP 0.047MF	10% 25V
R1135	1-216-081-00	METAL GLAZE 22K 5%	1/10W	C217	1-124-925-11	ELECT 2.2MF	20% 50V
R1136	1-216-081-00	METAL GLAZE 22K 5%	1/10W	C218	1-124-925-11	ELECT 2.2MF	20% 50V
R1137	1-216-095-00	METAL GLAZE 82K 5%	1/10W	C219	1-163-011-11	CERAMIC CHIP 0.0015MF	10% 50V
R1138	1-216-097-00	METAL GLAZE 100K 5%	1/10W	C220	1-163-011-11	CERAMIC CHIP 0.0015MF	10% 50V
R1139	1-216-005-00	METAL GLAZE 15 5%	1/10W	C221	1-124-925-11	ELECT 2.2MF	20% 50V
R1140	1-216-061-00	METAL GLAZE 3.3K 5%	1/10W	C222	1-124-925-11	ELECT 2.2MF	20% 50V
R1141	1-216-061-00	METAL GLAZE 3.3K 5%	1/10W	C223	1-136-177-00	FILM 1MF	5% 50V
R1142	1-216-033-00	METAL GLAZE 220 5%	1/10W	C224	1-136-177-00	FILM 1MF	5% 50V
R1143	1-216-049-00	METAL GLAZE 1K 5%	1/10W	C225	1-164-182-11	CERAMIC CHIP 0.0033MF	10% 50V
R1144	1-216-049-00	METAL GLAZE 1K 5%	1/10W	C226	1-163-007-11	CERAMIC CHIP 680PF	10% 50V
R1145	1-216-001-00	METAL GLAZE 10 5%	1/10W	C227	1-124-907-11	ELECT 10MF	20% 50V
R1146	1-216-049-00	METAL GLAZE 1K 5%	1/10W	C228	1-124-907-11	ELECT 10MF	20% 50V
R1147	1-216-045-00	METAL GLAZE 680 5%	1/10W	C229	1-124-478-11	ELECT 100MF	20% 25V
R1148	1-216-049-00	METAL GLAZE 1K 5%	1/10W	C230	1-124-478-11	ELECT 100MF	20% 25V
R1149	1-216-001-00	METAL GLAZE 10 5%	1/10W	C231	1-164-346-11	CERAMIC CHIP 1MF	16V
R1150	1-216-045-00	METAL GLAZE 680 5%	1/10W	C232	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V
R1151	1-216-049-00	METAL GLAZE 1K 5%	1/10W	C233	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V
R1152	1-216-049-00	METAL GLAZE 1K 5%	1/10W	C234	1-164-161-11	CERAMIC CHIP 0.0022MF	10% 50V
R1153	1-216-049-00	METAL GLAZE 1K 5%	1/10W	C235	1-130-772-00	FILM 0.22MF	5% 63V
R1154	1-216-041-00	METAL GLAZE 470 5%	1/10W	C236	1-124-618-11	ELECT 2200MF	20% 35V
< CRYSTAL >				C237	1-124-618-11	ELECT 2200MF	20% 35V
X1101	1-579-689-21	VIBRATOR, CRYSTAL		C238	1-164-161-11	CERAMIC CHIP 0.0022MF	10% 50V
X1102	1-579-282-21	VIBRATOR, CRYSTAL (KV-X2973E)		C239	1-130-772-00	FILM 0.22MF	5% 63V
	1-579-283-21	VIBRATOR, CRYSTAL (KV-X2972U)		C240	1-124-916-11	ELECT 22MF	20% 50V
*****				C241	1-124-916-11	ELECT 22MF	20% 50V
				C242	1-124-903-11	ELECT 1MF	20% 50V
				C244	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
				C248	1-163-185-00	CERAMIC CHIP 150PF	5% 50V
				C249	1-163-129-00	CERAMIC CHIP 330PF	5% 50V
				C251	1-126-320-11	ELECT 10MF	20% 16V
				C254	1-163-133-00	CERAMIC CHIP 470PF	5% 50V
				C255	1-163-133-00	CERAMIC CHIP 470PF	5% 50V
				C256	1-163-133-00	CERAMIC CHIP 470PF	5% 50V
				C257	1-163-133-00	CERAMIC CHIP 470PF	5% 50V
				C299	1-164-337-11	CERAMIC CHIP 2.2MF	16V
				C301	1-163-038-00	CERAMIC CHIP 0.1MF	25V
< CAPACITOR >				C302	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C071	1-126-108-11	ELECT 56MF	20% 16V	C303	1-164-337-11	CERAMIC CHIP 2.2MF	16V
C072	1-124-120-11	ELECT 220MF	20% 16V	C304	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C074	1-163-001-11	CERAMIC CHIP 220PF	10% 50V	C305	1-163-096-00	CERAMIC CHIP 13PF	5% 50V
C102	1-126-103-11	ELECT 470MF	20% 16V	C306	1-163-097-00	CERAMIC CHIP 15PF	5% 50V
C103	1-163-031-11	CERAMIC CHIP 0.01MF	50V	C307	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V
C104	1-124-477-11	ELECT 47MF	20% 16V	C308	1-163-809-11	CERAMIC CHIP 0.047MF	10% 25V
C105	1-124-916-11	ELECT 22MF	20% 50V	C309	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C106	1-124-927-11	ELECT 4.7MF	20% 50V	C310	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C110	1-124-478-11	ELECT 100MF	20% 25V	C311	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C120	1-163-031-11	CERAMIC CHIP 0.01MF	50V	C312	1-124-477-11	ELECT 47MF	20% 16V
C201	1-130-489-00	FILM 0.033MF	5% 50V	C313	1-163-077-91	CERAMIC CHIP 0.1MF	50V
C202	1-130-489-00	FILM 0.033MF	5% 50V	C314	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C203	1-164-005-11	CERAMIC CHIP 0.47MF	25V	C315	1-124-477-11	ELECT 47MF	20% 16V
C204	1-164-005-11	CERAMIC CHIP 0.47MF	25V	C316	1-163-077-91	CERAMIC CHIP 0.1MF	50V
C205	1-124-907-11	ELECT 10MF	20% 50V	C317	1-163-103-00	CERAMIC CHIP 27PF	5% 50V
C206	1-164-161-11	CERAMIC CHIP 0.0022MF	10% 50V				

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
C318	1-163-103-00	CERAMIC CHIP 27PF	5% 50V	C592	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V
C319	1-163-038-00	CERAMIC CHIP 0.1MF	25V	C593	1-164-182-11	CERAMIC CHIP 0.0033MF	10% 50V
C320	1-124-477-11	ELECT 47MF	20% 16V	C595	1-163-109-00	CERAMIC CHIP 47PF	5% 50V
C321	1-163-038-00	CERAMIC CHIP 0.1MF	25V	C599	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
C322	1-124-916-11	ELECT 22MF	20% 50V	C644	1-124-916-11	ELECT 22MF	20% 50V
C323	1-163-135-00	CERAMIC CHIP 560PF	5% 50V	C681	1-124-478-11	ELECT 100MF	20% 25V
C324	1-124-477-11	ELECT 47MF	20% 16V	C682	1-126-516-11	ELECT 120MF	20% 16V
C325	1-163-111-00	CERAMIC CHIP 56PF	5% 50V	C683	1-124-478-11	ELECT 100MF	20% 25V
C341	1-163-077-00	CERAMIC CHIP 0.1MF	10% 25V	C685	1-124-478-11	ELECT 100MF	20% 25V
C342	1-163-077-00	CERAMIC CHIP 0.1MF	10% 25V	C686	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C343	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C687	1-124-916-11	ELECT 22MF	20% 50V
C344	1-162-638-11	CERAMIC CHIP 1MF	16V	< FILTER >			
C345	1-164-346-11	CERAMIC CHIP 1MF	16V	CF581	1-577-611-11	OSCILLATOR, CERAMIC	
C346	1-124-925-11	ELECT 2.2MF	20% 50V	< CONNECTOR >			
C347	1-162-638-11	CERAMIC CHIP 1MF	16V	CN0001	*1-568-880-51	PIN, CONNECTOR 5P	
C348	1-164-346-11	CERAMIC CHIP 1MF	16V	CN0101	1-695-297-11	CONNECTOR, BOARD TO BOARD 20P (KV-X2973E, X2972U)	
C349	1-164-346-11	CERAMIC CHIP 1MF	16V	CN0103	1-564-511-11	PLUG, CONNECTOR 8P	
C350	1-124-907-11	ELECT 10MF	20% 50V	CN0104	1-564-511-11	PLUG, CONNECTOR 8P	
C351	1-124-443-00	ELECT 100MF	20% 10V	CN0105	*1-568-880-51	PIN, CONNECTOR 5P	
C353	1-164-346-11	CERAMIC CHIP 1MF	16V	CN0106	*1-568-880-51	PIN, CONNECTOR 5P	
C354	1-164-346-11	CERAMIC CHIP 1MF	16V	CN0107	*1-568-879-11	PIN, CONNECTOR 4P	
C355	1-162-638-11	CERAMIC CHIP 1MF	16V	CN0108	*1-568-878-51	PIN, CONNECTOR 3P	
C356	1-164-489-11	CERAMIC CHIP 0.22MF	10% 16V	CN0109	1-695-299-11	CONNECTOR, BOARD TO BOARD 50P	
C357	1-164-299-11	CERAMIC CHIP 0.22MF	10% 25V	CN0110	*1-568-882-51	PIN, CONNECTOR 7P	
C358	1-164-299-11	CERAMIC CHIP 0.22MF	10% 25V	CN0113	1-695-298-11	CONNECTOR, BOARD TO BOARD 40P	
C359	1-124-907-11	ELECT 10MF	20% 50V	CN0119	*1-568-879-11	PIN, CONNECTOR 4P	
C360	1-163-105-00	CERAMIC CHIP 33PF	5% 50V	CN5108	*1-564-513-11	PLUG, CONNECTOR 10P	
C361	1-163-101-00	CERAMIC CHIP 22PF	5% 50V	< DIODE >			
C362	1-130-772-00	FILM 0.22MF	5% 63V	D068	8-719-914-44	DIODE DAP202K	
C363	1-124-907-11	ELECT 10MF	20% 50V	D069	8-719-914-44	DIODE DAP202K	
C365	1-124-120-11	ELECT 220MF	20% 16V	D071	8-719-109-89	DIODE RD5.6ESB2	
C366	1-124-903-11	ELECT 1MF	20% 50V	D073	8-719-109-89	DIODE RD5.6ESB2	
C369	1-163-117-00	CERAMIC CHIP 100PF	5% 50V	D075	8-719-914-43	DIODE DAN202K	
C401	1-164-005-11	CERAMIC CHIP 0.47MF	16V	D077	8-719-914-43	DIODE DAN202K	
C402	1-124-034-51	ELECT 33MF	20% 16V	D078	8-719-109-89	DIODE RD5.6ESB2	
C403	1-162-637-11	CERAMIC CHIP 0.47MF	16V	D079	8-719-109-89	DIODE RD5.6ESB2	
C411	1-164-005-11	CERAMIC CHIP 0.47MF	25V	D101	8-719-982-27	DIODE MTZJ-33C	
C412	1-164-005-11	CERAMIC CHIP 0.47MF	25V	D206	8-719-914-43	DIODE DAN202K	
C421	1-124-477-11	ELECT 47MF	20% 16V	D207	8-719-921-89	DIODE MTZJ-13C	
C422	1-124-477-11	ELECT 47MF	20% 16V	D208	8-719-901-33	DIODE 1SS133	
C423	1-101-004-00	CERAMIC 0.01MF	50V	D209	8-719-901-33	DIODE 1SS133	
C424	1-163-129-00	CERAMIC CHIP 330PF	5% 50V	D210	8-719-901-33	DIODE 1SS133	
C425	1-163-129-00	CERAMIC CHIP 330PF	5% 50V	D211	8-719-901-33	DIODE 1SS133	
C426	1-124-477-11	ELECT 47MF	20% 16V	D212	8-719-901-33	DIODE 1SS133	
C427	1-164-346-11	CERAMIC CHIP 1MF	16V	D213	8-719-914-43	DIODE DAN202K	
C428	1-164-346-11	CERAMIC CHIP 1MF	16V	D214	8-719-914-42	DIODE DA204K	
C429	1-124-119-00	ELECT 330MF	20% 16V	D301	8-719-914-43	DIODE DAN202K	
C574	1-163-117-00	CERAMIC CHIP 100PF	5% 50V	D304	8-719-109-89	DIODE RD5.6ESB2	
C575	1-164-299-11	CERAMIC CHIP 0.22MF	10% 25V	D305	8-719-914-43	DIODE DAN202K	
C576	1-163-075-00	CERAMIC CHIP 0.047MF	10% 25V	D306	8-719-914-43	DIODE DAN202K	
C581	1-163-031-11	CERAMIC CHIP 0.01MF	50V	D307	8-719-914-43	DIODE DAN202K	
C582	1-124-916-11	ELECT 22MF	20% 50V	D308	8-719-914-42	DIODE DA204K	
C583	1-163-133-00	CERAMIC CHIP 470PF	5% 50V	D311	8-719-914-42	DIODE DA204K	
C585	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V	D312	8-719-914-44	DIODE DAP202K	
C586	1-163-063-00	CERAMIC CHIP 0.022MF	10% 50V	D313	8-719-914-43	DIODE DAN202K	
C587	1-124-903-11	ELECT 1MF	20% 50V	D314	8-719-914-43	DIODE DAN202K	
C588	1-164-346-11	CERAMIC CHIP 1MF	16V				
C589	1-124-478-11	ELECT 100MF	20% 25V				
C590	1-124-916-11	ELECT 22MF	20% 50V				
C591	1-124-925-11	ELECT 2.2MF	20% 50V				



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shading and marking are critical for safety.  
Replace only with the part number specified.

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
D381	8-719-110-03	DIODE RD7.5ESB2		Q206	8-729-216-22	TRANSISTOR 2SA1162-G	
D401	8-719-921-69	DIODE MTZJ9.1		Q207	8-729-920-74	TRANSISTOR 2SC2412K-QR	
D403	8-719-921-69	DIODE MTZJ9.1		Q209	8-729-920-74	TRANSISTOR 2SC2412K-QR	
D405	8-719-921-69	DIODE MTZJ9.1		Q210	8-729-920-74	TRANSISTOR 2SC2412K-QR	
D406	8-719-921-69	DIODE MTZJ9.1		Q303	8-729-216-22	TRANSISTOR 2SA1162-G	
D407	8-719-921-69	DIODE MTZJ9.1		Q304	8-729-900-53	TRANSISTOR DTC114EK	
D571	8-719-914-42	DIODE DA204K		Q306	8-729-216-22	TRANSISTOR 2SA1162-G	
D681	8-719-921-75	DIODE MTZN-10B		Q308	8-729-216-22	TRANSISTOR 2SA1162-G	
D683	8-719-914-44	DIODE DAP202K		Q309	8-729-931-02	TRANSISTOR 2SC2413KQ	
< IC >				Q311	8-729-901-06	TRANSISTOR DTA144EK	
IC072	8-759-184-27	IC ST24C16CB1		Q312	8-729-900-53	TRANSISTOR DTC114EK	
IC201	8-759-073-30	IC TDA6612		Q313	8-729-216-22	TRANSISTOR 2SA1162-G	
		(KV-X2971A, X2971B, X2971D, X2973E, X2971K)		Q314	8-729-920-74	TRANSISTOR 2SC2412K-QR	
	8-759-073-31	IC TDA6622 (KV-X2972U)		Q315	8-729-920-74	TRANSISTOR 2SC2412K-QR	
IC202	8-759-502-21	IC TDA2822M		Q316	8-729-901-01	TRANSISTOR DTC144EK	
IC251	8-759-072-99	IC TDA2052		Q317	8-729-920-74	TRANSISTOR 2SC2412K-QR	
IC261	8-759-072-99	IC TDA2052		Q401	8-729-920-74	TRANSISTOR 2SC2412K-QR	
IC301	8-759-189-90	IC TDA9145/N2B		Q402	8-729-920-74	TRANSISTOR 2SC2412K-QR	
IC302	8-759-084-91	IC TDA4661/V2		Q403	8-729-920-74	TRANSISTOR 2SC2412K-QR	
IC304	8-752-056-54	IC CXA1587S		Q581	8-729-920-74	TRANSISTOR 2SC2412K-QR	
IC401	8-752-068-46	IC CXA1855S		Q582	8-729-216-22	TRANSISTOR 2SA1162-G	
IC402	8-759-073-00	IC TEA2114		Q583	8-729-920-74	TRANSISTOR 2SC2412K-QR	
IC681	8-759-072-98	IC TDA8138A		Q610	8-729-140-97	TRANSISTOR 2SB734-34	
IC684	8-759-701-59	IC NJM78M09FA		Q681	8-729-109-53	TRANSISTOR 2SD795A-P	
IC685	8-759-510-52	IC TEA7605		Q682	8-729-900-53	TRANSISTOR DTC114EK	
< IF BLOCK >				< RESISTOR >			
IFB101	1-466-733-11	IF BLOCK (IFH-389) (KV-X2971D, X2973E, X2971K, X2971A)		JR102	1-216-295-00	METAL GLAZE 0 5% 1/10W	
	1-466-734-11	IF BLOCK (IFH-395) (KV-X2972U)		JR104	1-216-295-00	METAL GLAZE 0 5% 1/10W	
	1-466-735-11	IF BLOCK (IFH-389F) (KV-X2971B)		JR107	1-216-295-00	METAL GLAZE 0 5% 1/10W	
< COIL >				JR109	1-216-295-00	METAL GLAZE 0 5% 1/10W	
L101	1-412-546-41	INDUCTOR 560UH		JR110	1-216-295-00	METAL GLAZE 0 5% 1/10W	
L102	1-408-413-00	INDUCTOR 22UH		JR111	1-216-295-00	METAL GLAZE 0 5% 1/10W	
L201	1-407-500-00	INDUCTOR 4.7MMH		JR112	1-216-295-00	METAL GLAZE 0 5% 1/10W	
L307	1-408-405-00	INDUCTOR 4.7UH		JR113	1-216-295-00	METAL GLAZE 0 5% 1/10W	
L309	1-408-411-00	INDUCTOR 15UH		JR114	1-216-295-00	METAL GLAZE 0 5% 1/10W	
L575	1-408-397-00	INDUCTOR 1UH		JR115	1-216-295-00	METAL GLAZE 0 5% 1/10W	
L611	1-412-539-41	INDUCTOR 150UH		JR116	1-216-295-00	METAL GLAZE 0 5% 1/10W	
L681	1-412-539-41	INDUCTOR 150UH		JR117	1-216-295-00	METAL GLAZE 0 5% 1/10W	
< IC LINK >				JR118	1-216-295-00	METAL GLAZE 0 5% 1/10W	
PS681	1-532-605-91	LINK, IC 0.4A		JR119	1-216-295-00	METAL GLAZE 0 5% 1/10W	
PS682	1-532-605-91	LINK, IC 0.4A		JR120	1-216-295-00	METAL GLAZE 0 5% 1/10W	
< TRANSISTOR >				JR121	1-216-295-00	METAL GLAZE 0 5% 1/10W	
Q071	8-729-901-05	TRANSISTOR DTA124EK		JR122	1-216-295-00	METAL GLAZE 0 5% 1/10W	
Q101	8-729-216-22	TRANSISTOR 2SA1162-G		JR123	1-216-295-00	METAL GLAZE 0 5% 1/10W	
Q102	8-729-901-00	TRANSISTOR DTC124EK		JR125	1-216-295-00	METAL GLAZE 0 5% 1/10W	
Q103	8-729-900-53	TRANSISTOR DTC114EK		JR126	1-216-295-00	METAL GLAZE 0 5% 1/10W	
Q201	8-729-920-74	TRANSISTOR 2SC2412K-QR		JR127	1-216-295-00	METAL GLAZE 0 5% 1/10W	
Q202	8-729-920-74	TRANSISTOR 2SC2412K-QR		JR128	1-216-295-00	METAL GLAZE 0 5% 1/10W	
Q203	8-729-920-74	TRANSISTOR 2SC2412K-QR		JR129	1-216-295-00	METAL GLAZE 0 5% 1/10W	
Q204	8-729-216-22	TRANSISTOR 2SA1162-G		JR130	1-216-295-00	METAL GLAZE 0 5% 1/10W	
Q205	8-729-216-22	TRANSISTOR 2SA1162-G		JR131	1-216-295-00	METAL GLAZE 0 5% 1/10W	
				JR132	1-216-295-00	METAL GLAZE 0 5% 1/10W	
				JR133	1-216-295-00	METAL GLAZE 0 5% 1/10W	
				JR134	1-216-295-00	METAL GLAZE 0 5% 1/10W	
				JR135	1-216-295-00	METAL GLAZE 0 5% 1/10W	
				JR136	1-216-295-00	METAL GLAZE 0 5% 1/10W	
				JR137	1-216-295-00	METAL GLAZE 0 5% 1/10W	
				JR138	1-216-296-00	METAL GLAZE 0 5% 1/8W	
				JR139	1-216-295-00	METAL GLAZE 0 5% 1/10W	



REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
JR140	1-216-295-00	METAL GLAZE 0	5% 1/10W	JR254	1-216-296-00	METAL GLAZE 0	5% 1/8W
JR141	1-216-295-00	METAL GLAZE 0	5% 1/10W	JR255	1-216-296-00	METAL GLAZE 0	5% 1/8W
JR142	1-216-295-00	METAL GLAZE 0	5% 1/10W	JR257	1-216-296-00	METAL GLAZE 0	5% 1/8W
JR143	1-216-295-00	METAL GLAZE 0	5% 1/10W	JR272	1-216-295-00	METAL GLAZE 0	5% 1/10W
JR144	1-216-295-00	METAL GLAZE 0	5% 1/10W	R071	1-216-041-00	METAL GLAZE 470	5% 1/10W
JR146	1-216-295-00	METAL GLAZE 0	5% 1/10W	R072	1-216-033-00	METAL GLAZE 220	5% 1/10W
JR149	1-216-295-00	METAL GLAZE 0	5% 1/10W	R073	1-216-033-00	METAL GLAZE 220	5% 1/10W
JR150	1-216-295-00	METAL GLAZE 0	5% 1/10W	R074	1-216-198-91	METAL GLAZE 1K	5% 1/8W
JR151	1-216-295-00	METAL GLAZE 0	5% 1/10W	R076	1-216-057-00	METAL GLAZE 2.2K	5% 1/10W
JR152	1-216-295-00	METAL GLAZE 0	5% 1/10W	R077	1-216-025-00	METAL GLAZE 100	5% 1/10W
JR201	1-216-296-00	METAL GLAZE 0	5% 1/8W	R101	1-216-025-00	METAL GLAZE 100	5% 1/10W
JR202	1-216-296-00	METAL GLAZE 0	5% 1/8W	R102	1-216-049-00	METAL GLAZE 1K	5% 1/10W
JR203	1-216-296-00	METAL GLAZE 0	5% 1/8W	R103	1-216-059-00	METAL GLAZE 2.7K	5% 1/10W
JR204	1-216-296-00	METAL GLAZE 0	5% 1/8W	R105	1-216-073-00	METAL GLAZE 10K	5% 1/10W
JR205	1-216-296-00	METAL GLAZE 0	5% 1/8W	R108	1-216-230-00	METAL GLAZE 22K	5% 1/8W
JR206	1-216-296-00	METAL GLAZE 0	5% 1/8W	R115	1-216-210-00	METAL GLAZE 3.3K	5% 1/8W
JR207	1-216-296-00	METAL GLAZE 0	5% 1/8W	R201	1-216-653-11	METAL CHIP 1.2K	0.50% 1/10W
JR208	1-216-296-00	METAL GLAZE 0	5% 1/8W	R202	1-216-653-11	METAL CHIP 1.2K	0.50% 1/10W
JR209	1-216-296-00	METAL GLAZE 0	5% 1/8W	R203	1-216-067-00	METAL GLAZE 5.6K	5% 1/10W
JR210	1-216-296-00	METAL GLAZE 0	5% 1/8W	R204	1-216-091-00	METAL GLAZE 56K	5% 1/10W
JR211	1-216-296-00	METAL GLAZE 0	5% 1/8W	R205	1-216-071-00	METAL GLAZE 8.2K	5% 1/10W
JR212	1-216-296-00	METAL GLAZE 0	5% 1/8W	R206	1-216-071-00	METAL GLAZE 8.2K	5% 1/10W
JR213	1-216-296-00	METAL GLAZE 0	5% 1/8W	R207	1-216-057-00	METAL GLAZE 2.2K	5% 1/10W
JR214	1-216-296-00	METAL GLAZE 0	5% 1/8W	R208	1-216-057-00	METAL GLAZE 2.2K	5% 1/10W
JR215	1-216-296-00	METAL GLAZE 0	5% 1/8W	R209	1-249-377-11	CARBON 0.47	5% 1/4W F
JR216	1-216-296-00	METAL GLAZE 0	5% 1/8W	R210	1-247-734-11	CARBON 39	5% 1/2W
JR217	1-216-296-00	METAL GLAZE 0	5% 1/8W	R211	1-247-734-11	CARBON 39	5% 1/2W
JR218	1-216-296-00	METAL GLAZE 0	5% 1/8W	R212	1-216-049-00	METAL GLAZE 1K	5% 1/10W
JR219	1-216-296-00	METAL GLAZE 0	5% 1/8W	R213	1-216-073-00	METAL GLAZE 10K	5% 1/10W
JR220	1-216-296-00	METAL GLAZE 0	5% 1/8W	R214	1-216-049-00	METAL GLAZE 1K	5% 1/10W
JR221	1-216-296-00	METAL GLAZE 0	5% 1/8W	R215	1-216-073-00	METAL GLAZE 10K	5% 1/10W
JR222	1-216-296-00	METAL GLAZE 0	5% 1/8W	R216	1-216-049-00	METAL GLAZE 1K	5% 1/10W
JR223	1-216-296-00	METAL GLAZE 0	5% 1/8W	R217	1-216-045-00	METAL GLAZE 680	5% 1/10W
JR224	1-216-296-00	METAL GLAZE 0	5% 1/8W	R218	1-216-081-00	METAL GLAZE 22K	5% 1/10W
JR225	1-216-296-00	METAL GLAZE 0	5% 1/8W	R221	1-212-849-00	FUSIBLE 4.7	5% 1/4W F
JR226	1-216-296-00	METAL GLAZE 0	5% 1/8W	R222	1-216-049-00	METAL GLAZE 1K	5% 1/10W
JR227	1-216-296-00	METAL GLAZE 0	5% 1/8W	R223	1-216-045-00	METAL GLAZE 680	5% 1/10W
JR228	1-216-296-00	METAL GLAZE 0	5% 1/8W	R224	1-249-433-11	CARBON 22K	5% 1/4W
JR229	1-216-296-00	METAL GLAZE 0	5% 1/8W	R225	1-212-849-00	FUSIBLE 4.7	5% 1/4W F
JR230	1-216-296-00	METAL GLAZE 0	5% 1/8W	R226	1-249-412-11	CARBON 390	5% 1/4W
JR231	1-216-296-00	METAL GLAZE 0	5% 1/8W	R227	1-216-081-00	METAL GLAZE 22K	5% 1/10W
JR232	1-216-296-00	METAL GLAZE 0	5% 1/8W	R228	1-216-081-00	METAL GLAZE 22K	5% 1/10W
JR233	1-216-296-00	METAL GLAZE 0	5% 1/8W	R229	1-216-039-00	METAL GLAZE 390	5% 1/10W
JR234	1-216-296-00	METAL GLAZE 0	5% 1/8W	R230	1-216-246-91	METAL GLAZE 100K	5% 1/8W
JR235	1-216-296-00	METAL GLAZE 0	5% 1/8W	R231	1-216-097-00	METAL GLAZE 100K	5% 1/10W
JR236	1-216-296-00	METAL GLAZE 0	5% 1/8W	R232	1-216-081-00	METAL GLAZE 22K	5% 1/10W
JR237	1-216-296-00	METAL GLAZE 0	5% 1/8W	R233	1-216-071-00	METAL GLAZE 8.2K	5% 1/10W
JR238	1-216-296-00	METAL GLAZE 0	5% 1/8W	R234	1-216-077-00	METAL GLAZE 15K	5% 1/10W
JR239	1-216-296-00	METAL GLAZE 0	5% 1/8W	R235	1-216-073-00	METAL GLAZE 10K	5% 1/10W
JR240	1-216-296-00	METAL GLAZE 0	5% 1/8W	R236	1-216-081-00	METAL GLAZE 22K	5% 1/10W
JR241	1-216-296-00	METAL GLAZE 0	5% 1/8W	R237	1-216-025-00	METAL GLAZE 100	5% 1/10W
JR242	1-216-296-00	METAL GLAZE 0	5% 1/8W	R238	1-216-025-00	METAL GLAZE 100	5% 1/10W
JR243	1-216-295-00	METAL GLAZE 0	5% 1/10W	R241	1-216-065-00	METAL GLAZE 4.7K	5% 1/10W
JR245	1-216-296-00	METAL GLAZE 0	5% 1/8W	R242	1-216-214-00	METAL GLAZE 4.7K	5% 1/8W
JR247	1-216-296-00	METAL GLAZE 0	5% 1/8W	R244	1-216-069-00	METAL GLAZE 6.8K	5% 1/10W
JR248	1-216-296-00	METAL GLAZE 0	5% 1/8W	R245	1-216-089-91	METAL GLAZE 47K	5% 1/10W
JR250	1-216-296-00	METAL GLAZE 0	5% 1/8W	R246	1-216-097-00	METAL GLAZE 100K	5% 1/10W
JR251	1-216-296-00	METAL GLAZE 0	5% 1/8W	R247	1-216-073-00	METAL GLAZE 10K	5% 1/10W
JR252	1-216-296-00	METAL GLAZE 0	5% 1/8W	R248	1-216-073-00	METAL GLAZE 10K	5% 1/10W
JR253	1-216-296-00	METAL GLAZE 0	5% 1/8W				



REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
R249	1-216-045-00	METAL GLAZE 680 5%	1/10W	R359	1-216-033-00	METAL GLAZE 220 5%	1/10W
R250	1-216-095-00	METAL GLAZE 82K 5%	1/10W	R360	1-216-033-00	METAL GLAZE 220 5%	1/10W
R251	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W	R361	1-216-033-00	METAL GLAZE 220 5%	1/10W
R252	1-216-073-00	METAL GLAZE 10K 5%	1/10W	R362	1-216-077-00	METAL GLAZE 15K 5%	1/10W
R253	1-216-073-00	METAL GLAZE 10K 5%	1/10W	R366	1-216-236-11	METAL GLAZE 39K 5%	1/8W
R254	1-216-252-00	METAL GLAZE 180K 5%	1/8W	R376	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
R255	1-216-252-00	METAL GLAZE 180K 5%	1/8W	R377	1-216-051-00	METAL GLAZE 1.2K 5%	1/10W
R256	1-249-409-11	CARBON 220 5%	1/4W	R378	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W
R257	1-249-409-11	CARBON 220 5%	1/4W	R379	1-216-206-00	METAL GLAZE 2.2K 5%	1/8W
R258	1-216-089-91	METAL GLAZE 47K 5%	1/10W	R380	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W
R259	1-216-063-00	METAL GLAZE 3.9K 5%	1/10W	R381	1-216-164-00	METAL GLAZE 39 5%	1/8W
R260	1-216-212-00	METAL GLAZE 3.9K 5%	1/8W	R382	1-216-164-00	METAL GLAZE 39 5%	1/8W
R301	1-216-041-00	METAL GLAZE 470 5%	1/10W	R383	1-216-164-00	METAL GLAZE 39 5%	1/8W
R302	1-216-041-00	METAL GLAZE 470 5%	1/10W	R385	1-216-085-00	METAL GLAZE 33K 5%	1/10W
R303	1-216-174-00	METAL GLAZE 100 5%	1/8W	R386	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R304	1-216-174-00	METAL GLAZE 100 5%	1/8W	R387	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
R305	1-216-035-00	METAL GLAZE 270 5%	1/10W	R388	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R306	1-216-035-00	METAL GLAZE 270 5%	1/10W	R389	1-216-071-00	METAL GLAZE 8.2K 5%	1/10W
R307	1-216-075-00	METAL GLAZE 12K 5%	1/10W	R390	1-216-083-00	METAL GLAZE 27K 5%	1/10W
R308	1-216-121-00	METAL GLAZE 1M 5%	1/10W	R391	1-216-069-00	METAL GLAZE 6.8K 5%	1/10W
R309	1-216-001-00	METAL GLAZE 10 5%	1/10W	R392	1-216-061-00	METAL GLAZE 3.3K 5%	1/10W
R310	1-216-001-00	METAL GLAZE 10 5%	1/10W	R393	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R311	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W	R394	1-216-081-00	METAL GLAZE 22K 5%	1/10W
R312	1-249-413-11	CARBON 470 5%	1/4W	R395	1-216-097-00	METAL GLAZE 100K 5%	1/10W
R313	1-216-081-00	METAL GLAZE 22K 5%	1/10W	R396	1-216-081-00	METAL GLAZE 22K 5%	1/10W
R314	1-249-409-11	CARBON 220 5%	1/4W	R401	1-216-171-00	METAL GLAZE 75 5%	1/8W
R315	1-249-409-11	CARBON 220 5%	1/4W	R402	1-216-158-00	METAL GLAZE 22 5%	1/8W
R316	1-216-085-00	METAL GLAZE 33K 5%	1/10W	R403	1-216-025-00	METAL GLAZE 100 5%	1/10W
R318	1-216-041-00	METAL GLAZE 470 5%	1/10W	R404	1-216-158-00	METAL GLAZE 22 5%	1/8W
R319	1-249-413-11	CARBON 470 5%	1/4W	R405	1-216-025-00	METAL GLAZE 100 5%	1/10W
R322	1-216-041-00	METAL GLAZE 470 5%	1/10W	R406	1-216-158-00	METAL GLAZE 22 5%	1/8W
R323	1-216-295-00	METAL GLAZE 0 5%	1/10W	R407	1-216-025-00	METAL GLAZE 100 5%	1/10W
R324	1-216-049-00	METAL GLAZE 1K 5%	1/10W	R408	1-216-093-00	METAL GLAZE 68K 5%	1/10W
R325	1-216-041-00	METAL GLAZE 470 5%	1/10W	R410	1-216-067-00	METAL GLAZE 5.6K 5%	1/10W
R328	1-216-025-00	METAL GLAZE 100 5%	1/10W	R411	1-216-067-00	METAL GLAZE 5.6K 5%	1/10W
R329	1-216-023-00	METAL GLAZE 82 5%	1/10W	R412	1-216-022-00	METAL GLAZE 75 5%	1/10W
R330	1-216-053-00	METAL GLAZE 1.5K 5%	1/10W	R413	1-216-022-00	METAL GLAZE 75 5%	1/10W
R331	1-216-097-00	METAL GLAZE 100K 5%	1/10W	R414	1-216-022-00	METAL GLAZE 75 5%	1/10W
R332	1-216-182-91	METAL GLAZE 220 5%	1/8W	R416	1-216-113-00	METAL GLAZE 470K 5%	1/10W
R333	1-216-182-91	METAL GLAZE 220 5%	1/8W	R417	1-216-067-00	METAL GLAZE 5.6K 5%	1/10W
R334	1-216-182-91	METAL GLAZE 220 5%	1/8W	R419	1-216-113-00	METAL GLAZE 470K 5%	1/10W
R336	1-216-029-00	METAL GLAZE 150 5%	1/10W	R420	1-216-067-00	METAL GLAZE 5.6K 5%	1/10W
R337	1-216-041-00	METAL GLAZE 470 5%	1/10W	R424	1-216-025-00	METAL GLAZE 100 5%	1/10W
R338	1-216-035-00	METAL GLAZE 270 5%	1/10W	R425	1-216-025-00	METAL GLAZE 100 5%	1/10W
R339	1-216-025-00	METAL GLAZE 100 5%	1/10W	R428	1-249-393-11	CARBON 10 5%	1/4W F
R340	1-216-025-00	METAL GLAZE 100 5%	1/10W	R574	1-216-041-00	METAL GLAZE 470 5%	1/10W
R341	1-216-025-00	METAL GLAZE 100 5%	1/10W	R575	1-216-186-00	METAL GLAZE 330 5%	1/8W
R342	1-216-033-00	METAL GLAZE 220 5%	1/10W	R577	1-216-089-91	METAL GLAZE 47K 5%	1/10W
R343	1-216-022-00	METAL GLAZE 75 5%	1/10W	R578	1-216-238-91	METAL GLAZE 47K 5%	1/8W
R344	1-216-022-00	METAL GLAZE 75 5%	1/10W	R580	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R345	1-216-171-00	METAL GLAZE 75 5%	1/8W	R581	1-216-033-00	METAL GLAZE 220 5%	1/10W
R346	1-216-022-00	METAL GLAZE 75 5%	1/10W	R582	1-216-037-00	METAL GLAZE 330 5%	1/10W
R347	1-216-083-00	METAL GLAZE 27K 5%	1/10W	R583	1-216-053-00	METAL GLAZE 1.5K 5%	1/10W
R351	1-216-073-00	METAL GLAZE 10K 5%	1/10W	R584	1-216-039-00	METAL GLAZE 390 5%	1/10W
R352	1-216-033-00	METAL GLAZE 220 5%	1/10W	R585	1-216-067-00	METAL GLAZE 5.6K 5%	1/10W
R354	1-216-033-00	METAL GLAZE 220 5%	1/10W	R586	1-216-047-00	METAL GLAZE 820 5%	1/10W
R355	1-216-033-00	METAL GLAZE 220 5%	1/10W	R587	1-216-047-00	METAL GLAZE 820 5%	1/10W
R356	1-216-033-00	METAL GLAZE 220 5%	1/10W	R588	1-216-101-00	METAL GLAZE 150K 5%	1/10W
R357	1-216-041-00	METAL GLAZE 470 5%	1/10W	R589	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R358	1-216-031-00	METAL GLAZE 180 5%	1/10W	R590	1-216-049-00	METAL GLAZE 1K 5%	1/10W

REF.NO.	PART NO.	DESCRIPTION	REMARK
C154	1-164-337-11	CERAMIC CHIP 2.2MF	16V
C155	1-164-232-11	CERAMIC CHIP 0.01F	50V
C156	1-124-477-11	ELECT 47MF	10% 16V
C161	1-164-117-00	CERAMIC CHIP 100PF	5% 50V
C162	1-164-222-11	CERAMIC CHIP 0.22MF	25V
C163	1-164-346-11	CERAMIC CHIP 1MF	16V
C164	1-163-141-00	CERAMIC CHIP 0.001MF	5% 50V
C165	1-164-232-11	CERAMIC CHIP 0.01F	10% 50V
C166	1-124-477-11	ELECT 47MF	20% 16V
C167	1-163-213-00	CERAMIC CHIP 0.0022MF	5% 50V
C168	1-164-346-11	CERAMIC CHIP 1MF	16V
C170	1-124-477-11	ELECT 47MF	20% 16V
C171	1-124-477-11	ELECT 47MF	20% 16V
C173	1-124-477-11	ELECT 47MF	20% 16V
< FILTER >			
CF2	1-527-839-00	FILTER, CERAMIC	
CF3	1-527-840-00	FILTER, CERAMIC	
CF4	1-567-570-00	FILTER, CERAMIC	
SWF1	1-579-658-11	FILTER, SAWTOOTH WAVE	
< CONNECTOR >			
CN1	1-750-173-11	PIN, CONNECTOR (PC BOARD)	10P
CN2	1-750-173-11	PIN, CONNECTOR (PC BOARD)	10P
< TRIMMER >			
CT1	1-404-801-11	TRAP, CERAMIC	
< DIODE >			
D161	8-719-400-18	DIODE MA152WK	
< IC >			
IC1	8-759-070-76	IC M52308SP	
IC2	8-759-070-71	IC TDA9820	
IC3	8-759-514-54	IC BA7046	
< COIL >			
L101	1-408-421-00	INDUCTOR 100UH	
L102	1-408-419-00	INDUCTOR 68UH	
L103	1-408-419-00	INDUCTOR 68UH	
L104	1-408-408-00	INDUCTOR 8.2UH	
L121	1-408-413-00	INDUCTOR 22UH	
L122	1-408-420-00	INDUCTOR 82UH	
L142	1-408-790-00	INDUCTOR 0.56UH	
L151	1-408-419-00	INDUCTOR 68UH	
L161	1-408-419-00	INDUCTOR 68UH	
< TRANSISTOR >			
Q101	8-729-920-74	TRANSISTOR 2SC2412K-QR	
Q102	8-729-216-22	TRANSISTOR 2SA1162-G	
Q121	8-729-920-74	TRANSISTOR 2SC2412K-QR	
Q122	8-729-216-22	TRANSISTOR 2SA1162-G	
Q161	8-729-216-22	TRANSISTOR 2SA1162-G	
Q170	8-729-920-74	TRANSISTOR 2SC2412K-QR	
Q171	8-729-920-74	TRANSISTOR 2SC2412K-QR	
Q172	8-729-920-74	TRANSISTOR 2SC2412K-QR	
Q173	8-729-920-74	TRANSISTOR 2SC2412K-QR	
< RESISTOR >			
JR2	1-216-295-00	METAL GLAZE 0 5%	1/1 0W

IF ( KV-X2971A/X2971D/  
KV-X2973E/X2971K )

IF ( KV-X2972U )

REF.NO.	PART NO.	DESCRIPTION	REMARK
JR3	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR4	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR7	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR8	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR9	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR11	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR14	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR16	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR18	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR19	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR20	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR21	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR23	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR24	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR25	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR29	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR30	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR33	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR38	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR39	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR40	1-216-296-00	METAL GLAZE 0 5% 1/8	
R101	1-216-075-00	METAL GLAZE 12K 5% 1/10W	
R102	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R103	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
R104	1-216-051-00	METAL GLAZE 1.2K 5% 1/10W	
R106	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R107	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R108	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R110	1-216-041-00	METAL GLAZE 470 5% 1/10W	
R113	1-216-031-00	METAL GLAZE 180 5% 1/10W	
R114	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R115	1-216-027-00	METAL GLAZE 120 5% 1/10W	
R116	1-216-101-00	METAL GLAZE 150K 5% 1/10W	
R117	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
R118	1-216-117-00	METAL GLAZE 680K 5% 1/10W	
R119	1-216-240-00	METAL GLAZE 56K 5% 1/8W	
R120	1-216-075-00	METAL GLAZE 12K 5% 1/10W	
R121	1-216-053-00	METAL GLAZE 1.5K 5% 1/10W	
R122	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W	
R123	1-216-075-00	METAL GLAZE 12K 5% 1/10W	
R124	1-216-041-00	METAL GLAZE 470 5% 1/10W	
R125	1-216-041-00	METAL GLAZE 470 5% 1/10W	
R127	1-216-047-00	METAL GLAZE 820 5% 1/10W	
R130	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R131	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R132	1-216-069-00	METAL GLAZE 6.8K 5% 1/10W	
R133	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W	
R134	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R135	1-216-198-00	METAL GLAZE 1K 5% 1/8W	
R150	1-216-043-00	METAL GLAZE 560 5% 1/10W	
R151	1-216-043-00	METAL GLAZE 560 5% 1/10W	
R152	1-216-043-00	METAL GLAZE 560 5% 1/10W	
R153	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R154	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R155	1-216-051-00	METAL GLAZE 1.2K 5% 1/10W	
R156	1-216-083-00	METAL GLAZE 27K 5% 1/10W	
R157	1-216-051-00	METAL GLAZE 1.2K 5% 1/10W	
R159	1-216-107-00	METAL GLAZE 270K 5% 1/10W	
R160	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R161	1-216-755-11	METAL CHIP 130K 0.50% 1/10W	

REF.NO.	PART NO.	DESCRIPTION	REMARK
R162	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R163	1-216-113-00	METAL GLAZE 470K 5% 1/10W	
R164	1-216-113-00	METAL GLAZE 470K 5% 1/10W	
R165	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
R166	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R167	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R168	1-216-113-00	METAL GLAZE 470K 5% 1/10W	
R169	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R170	1-216-083-00	METAL GLAZE 27K 5% 1/10W	
R171	1-216-075-00	METAL GLAZE 12K 5% 1/10W	
R172	1-216-095-00	METAL GLAZE 82K 5% 1/10W	
R173	1-216-059-00	METAL GLAZE 2.7K 5% 1/10W	
R174	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
R175	1-216-083-00	METAL GLAZE 27K 5% 1/10W	
R176	1-216-075-00	METAL GLAZE 12K 5% 1/10W	
R177	1-216-095-00	METAL GLAZE 82K 5% 1/10W	
R178	1-216-059-00	METAL GLAZE 2.7K 5% 1/10W	
R179	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
R180	1-216-037-00	METAL GLAZE 330 5% 1/10W	
R181	1-216-037-00	METAL GLAZE 330 5% 1/10W	

&lt; VARIABLE RESISTOR &gt;

RV1 1-241-121-11 RES, ADJ, CARBON 4.7K

&lt; TRANSFORMER &gt;

T4 1-416-017-21 COIL  
T5 1-416-018-21 COIL

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1-466-734-11 IF BLOCK (IFH-395) (KV-X2972U)  
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&lt; CAPACITOR &gt;

C101	1-163-239-11	CERAMIC CHIP 33PF	5%	50V
C102	1-164-222-11	CERAMIC CHIP 0.22MF		25V
C103	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V
C104	1-164-232-11	CERAMIC CHIP 0.01F	10%	50V
C105	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V
C106	1-124-477-11	ELECT 47MF	20%	16V
C107	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V
C108	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V
C109	1-164-232-11	CERAMIC CHIP 0.01F	10%	50V
C112	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V
C113	1-164-101-00	CERAMIC CHIP 22PF	5%	50V
C114	1-124-477-11	ELECT 47MF	20%	16V
C115	1-164-232-11	CERAMIC CHIP 0.01F	10%	50V
C116	1-164-346-11	CERAMIC CHIP 1MF		16V
C118	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V
C119	1-163-369-11	CERAMIC CHIP 47PFF	5%	25V
C122	1-163-093-11	CERAMIC CHIP 10PF	5%	50V
C130	1-216-295-00	METAL GLAZE 0	5%	1/10W
C131	1-163-224-11	CERAMIC CHIP 7PF		0.25PF 50V
C133	1-124-477-11	ELECT 47MF	20%	16V
C161	1-164-117-00	CERAMIC CHIP 100PF	5%	50V
C162	1-164-222-11	CERAMIC CHIP 0.22MF		25V
C163	1-164-346-11	CERAMIC CHIP 1MF		16V
C164	1-163-141-00	CERAMIC CHIP 0.001MF	5%	50V
C165	1-164-232-11	CERAMIC CHIP 0.01F	10%	50V
C166	1-124-477-11	ELECT 47MF	20%	16V

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
C167	1-163-213-00	CERAMIC CHIP 0.0022MF	5% 50V	JR20	1-216-296-00	METAL GLAZE	0 5% 1/8W
C168	1-164-346-11	CERAMIC CHIP 1MF	16V	JR21	1-216-296-00	METAL GLAZE	0 5% 1/8W
C170	1-124-477-11	ELECT 47MF	20% 16V	JR23	1-216-296-00	METAL GLAZE	0 5% 1/8W
C171	1-124-477-11	ELECT 47MF	20% 16V	JR24	1-216-296-00	METAL GLAZE	0 5% 1/8W
C173	1-124-477-11	ELECT 47MF	20% 16V	JR25	1-216-296-00	METAL GLAZE	0 5% 1/8W
< FILTER >				JR29	1-216-296-00	METAL GLAZE	0 5% 1/8W
CD1	1-579-657-21	DISCRIMINATOR, CERAMIC		JR30	1-216-295-00	METAL GLAZE	0 5% 1/10W
CF1	1-567-569-11	FILTER, CERAMIC		JR33	1-216-295-00	METAL GLAZE	0 5% 1/10W
SWF1	1-579-659-11	FILTER, SAWTOOTH WAVE		JR38	1-216-296-00	METAL GLAZE	0 5% 1/8W
< CONNECTOR >				JR39	1-216-296-00	METAL GLAZE	0 5% 1/8W
CN1	1-750-173-11	PIN, CONNECTOR (PC BOARD) 10P		JR40	1-216-296-00	METAL GLAZE	0 5% 1/8W
CN2	1-750-173-11	PIN, CONNECTOR (PC BOARD) 10P		JR41	1-216-295-00	METAL GLAZE	0 5% 1/10W
< TRIMMER >				JR42	1-216-295-00	METAL GLAZE	0 5% 1/10W
CT1	1-409-333-00	TRAP, CERAMIC (6.0MHZ)		JR101	1-216-295-00	METAL GLAZE	0 5% 1/10W
< DIODE >				R101	1-216-075-00	METAL GLAZE	12K 5% 1/10W
D161	8-719-400-18	DIODE MA152WK		R102	1-216-045-00	METAL GLAZE	680 5% 1/10W
< IC >				R103	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
IC1	8-759-070-76	IC M52308SP		R104	1-216-051-00	METAL GLAZE	1.2K 5% 1/10W
IC3	8-759-514-54	IC BA7046		R105	1-216-043-00	METAL GLAZE	560 5% 1/10W
< COIL >				R106	1-216-049-00	METAL GLAZE	1K 5% 1/10W
L101	1-408-414-00	INDUCTOR 27UH		R107	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
L102	1-408-419-00	INDUCTOR 68UH		R108	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
L103	1-408-419-00	INDUCTOR 68UH		R110	1-216-041-00	METAL GLAZE	470 5% 1/10W
L104	1-408-406-00	INDUCTOR 5.6UH		R112	1-216-045-00	METAL GLAZE	680 5% 1/10W
L105	1-408-410-00	INDUCTOR 12UH		R113	1-216-031-00	METAL GLAZE	180 5% 1/10W
L142	1-408-790-41	INDUCTOR 0.56UH		R114	1-216-049-00	METAL GLAZE	1K 5% 1/10W
L161	1-408-419-00	INDUCTOR 68UH		R115	1-216-031-00	METAL GLAZE	180 5% 1/10W
< TRANSISTOR >				R116	1-216-101-00	METAL GLAZE	150K 5% 1/10W
Q101	8-729-920-74	TRANSISTOR 2SC2412K-QR		R117	1-216-097-00	METAL GLAZE	100K 5% 1/10W
Q102	8-729-216-22	TRANSISTOR 2SA1162-G		R118	1-216-117-00	METAL GLAZE	680K 5% 1/10W
Q122	8-729-216-22	TRANSISTOR 2SA1162-G		R119	1-216-240-00	METAL GLAZE	56K 5% 1/8W
Q161	8-729-216-22	TRANSISTOR 2SA1162-G		R120	1-216-075-00	METAL GLAZE	12K 5% 1/10W
Q172	8-729-920-74	TRANSISTOR 2SC2412K-QR		R121	1-216-053-00	METAL GLAZE	1.5K 5% 1/10W
Q173	8-729-920-74	TRANSISTOR 2SC2412K-QR		R122	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
< RESISTOR >				R123	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
JR1	1-216-296-00	METAL GLAZE	0 5% 1/8W	R130	1-216-049-00	METAL GLAZE	1K 5% 1/10W
JR2	1-216-295-00	METAL GLAZE	0 5% 1/10W	R131	1-216-025-00	METAL GLAZE	100 5% 1/10W
JR3	1-216-296-00	METAL GLAZE	0 5% 1/8W	R132	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W
JR4	1-216-295-00	METAL GLAZE	0 5% 1/10W	R133	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
JR7	1-216-295-00	METAL GLAZE	0 5% 1/10W	R134	1-216-049-00	METAL GLAZE	1K 5% 1/10W
JR8	1-216-295-00	METAL GLAZE	0 5% 1/10W	R135	1-216-198-00	METAL GLAZE	1K 5% 1/8W
JR9	1-216-296-00	METAL GLAZE	0 5% 1/8W	R153	1-216-025-00	METAL GLAZE	100 5% 1/10W
JR10	1-216-296-00	METAL GLAZE	0 5% 1/8W	R159	1-216-107-00	METAL GLAZE	270K 5% 1/10W
JR11	1-216-296-00	METAL GLAZE	0 5% 1/8W	R160	1-216-049-00	METAL GLAZE	1K 5% 1/10W
JR12	1-216-296-00	METAL GLAZE	0 5% 1/8W	R161	1-216-755-11	METAL CHIP	130K 0.50% 1/10W
JR13	1-163-093-00	CERAMIC CHIP 10PF	5% 50V	R162	1-216-073-00	METAL GLAZE	10K 5% 1/10W
JR14	1-216-296-00	METAL GLAZE	0 5% 1/8W	R163	1-216-113-00	METAL GLAZE	470K 5% 1/10W
JR16	1-216-295-00	METAL GLAZE	0 5% 1/10W	R164	1-216-113-00	METAL GLAZE	470K 5% 1/10W
JR18	1-216-295-00	METAL GLAZE	0 5% 1/10W	R165	1-216-081-00	METAL GLAZE	22K 5% 1/10W
JR19	1-216-296-00	METAL GLAZE	0 5% 1/8W	R166	1-216-049-00	METAL GLAZE	1K 5% 1/10W
				R167	1-216-073-00	METAL GLAZE	10K 5% 1/10W
				R168	1-216-113-00	METAL GLAZE	470K 5% 1/10W
				R169	1-216-049-00	METAL GLAZE	1K 5% 1/10W
				R175	1-216-083-00	METAL GLAZE	27K 5% 1/10W
				R176	1-216-075-00	METAL GLAZE	12K 5% 1/10W
				R177	1-216-095-00	METAL GLAZE	82K 5% 1/10W
				R178	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W
				R179	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
				R181	1-216-037-00	METAL GLAZE	330 5% 1/10W

IF ( KV-X2972U )

IF ( KV-X2971B )

REF.NO.	PART NO.	DESCRIPTION	REMARK
< VARIABLE RESISTOR >			
RV1	1-241-121-11	RES, ADJ, CARBON 4.7K	
< TRANSFORMER >			
T4	1-416-017-21	COIL	
T5	1-416-018-21	COIL	
*****			
	1-466-735-11	IF BLOCK (IFH-389F) (KV-X2971B)	
*****			
< CAPACITOR >			
C1	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V
C2	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
C3	1-124-903-11	ELECT 1MF	20% 50V
C4	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
C5	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
C6	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V
C7	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
C8	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V
C9	1-124-916-11	ELECT 22MF	20% 25V
C10	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
C11	1-124-477-11	ELECT 47MF	20% 16V
C13	1-163-059-00	CERAMIC CHIP 0.01MF	10% 50V
C14	1-124-477-11	ELECT 47MF	20% 16V
C15	1-124-903-11	ELECT 1MF	20% 50V
C16	1-163-061-00	CERAMIC CHIP 0.015MF	10% 50V
C17	1-162-638-11	CERAMIC CHIP 1MF	16V
C18	1-162-638-11	CERAMIC CHIP 1MF	16V
C19	1-163-141-00	CERAMIC CHIP 0.001MF	5% 50V
C20	1-124-902-00	ELECT 0.47MF	20% 50V
C21	1-124-903-11	ELECT 1MF	20% 50V
C22	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
C23	1-124-902-00	ELECT 0.47MF	20% 50V
C24	1-164-506-11	CERAMIC CHIP 4.7MF	16V
C25	1-124-477-11	ELECT 47MF	20% 16V
C26	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
C27	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
C28	1-124-477-11	ELECT 47MF	20% 16V
C33	1-124-907-11	ELECT 10MF	20% 50V
C34	1-124-907-11	ELECT 10MF	20% 50V
C35	1-124-925-11	ELECT 2.2MF	20% 50V
C36	1-124-477-11	ELECT 47MF	20% 16V
C37	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
C38	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V
C40	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
C71	1-124-477-11	ELECT 47MF	20% 16V
C72	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
C80	1-124-477-11	ELECT 47MF	20% 16V
C83	1-124-477-11	ELECT 47MF	20% 16V
C84	1-124-477-11	ELECT 47MF	20% 16V
C85	1-124-477-11	ELECT 47MF	20% 16V
C86	1-124-477-11	ELECT 47MF	20% 16V
C87	1-124-477-11	ELECT 47MF	20% 16V
C91	1-163-229-11	CERAMIC CHIP 12PF	5% 50V
C95	1-164-337-11	CERAMIC CHIP 2.2MF	16V
C101	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V
C102	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V
C104	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V

REF.NO.	PART NO.	DESCRIPTION	REMARK
C105	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V
C106	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V
C119	1-163-369-11	CERAMIC CHIP 47PFF	5% 25V
C121	1-126-176-11	ELECT 220MF	20% 10V
C122	1-163-119-00	CERAMIC CHIP 120PF	5% 50V
C131	1-126-099-11	ELECT 2.2MF	20% 35V
< FILTER >			
CF1	1-527-839-00	FILTER, CERAMIC	
CF2	1-567-569-11	FILTER, CERAMIC	
CF3	1-527-840-00	FILTER, CERAMIC	
CF4	1-567-570-11	FILTER, CERAMIC	
SWF1	1-579-662-11	FILTER, SURFACE WAVE	
SWF3	1-404-711-11	SAWF	
SWF4	1-579-660-11	FILTER, SAWTOOTH WAVE	
< CONNECTOR >			
CN1	1-750-173-11	PIN, CONNECTOR (PC BOARD) 10P	
CN2	1-750-173-11	PIN, CONNECTOR (PC BOARD) 10P	
< TRIMMER >			
CT1	1-404-801-11	TRAP, CERAMIC	
CT2	1-409-429-11	TRAP, CERAMIC	
CV1	1-141-245-00	CAP, TRIMMER	
CV1	1-141-245-00	CAP, TRIMMER	
CV3	1-141-304-21	TRIMMER, CERAMIC	
< DIODE >			
D7	8-719-421-57	DIODE MA73-TX	
D8	8-719-421-57	DIODE MA73-TX	
D9	8-719-421-57	DIODE MA73-TX	
< IC >			
IC1	8-759-070-75	IC M52312SP	
IC2	8-759-070-71	IC TDA9820	
IC3	8-759-979-62	IC PCF8574	
< COIL >			
L1	1-408-419-00	INDUCTOR 68UH	
L2	1-408-419-00	INDUCTOR 68UH	
L3	1-408-407-00	INDUCTOR 6.8UH	
L4	1-408-419-00	INDUCTOR 68UH	
L5	1-408-419-00	INDUCTOR 68UH	
L7	1-408-406-00	INDUCTOR 5.6UH	
L9	1-408-419-00	INDUCTOR 68UH	
L71	1-408-419-00	INDUCTOR 68UH	
L101	1-408-399-00	INDUCTOR 1.5UH	
L121	1-408-407-00	INDUCTOR 6.8UH	
< TRANSISTOR >			
Q1	8-729-907-06	TRANSISTOR BF199-AMMO	
Q4	8-729-920-74	TRANSISTOR 2SC2412K-QR	
Q5	8-729-115-10	TRANSISTOR 2SK105A-10	
Q6	8-729-900-52	TRANSISTOR D7C114YK	
Q7	8-729-216-22	TRANSISTOR 2SA1162-G	
Q8	8-729-920-74	TRANSISTOR 2SC2412K-QR	
Q10	8-729-920-74	TRANSISTOR 2SC2412K-QR	
Q11	8-729-920-74	TRANSISTOR 2SC2412K-QR	
Q12	8-729-920-74	TRANSISTOR 2SC2412K-QR	
Q13	8-729-920-74	TRANSISTOR 2SC2412K-QR	



REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
Q14	8-729-920-74	TRANSISTOR 2SC2412K-QR		R76	1-216-025-00	METAL GLAZE 100 5%	1/10W
Q15	8-729-920-74	TRANSISTOR 2SC2412K-QR		R77	1-216-174-00	METAL GLAZE 100 5%	1/8W
Q16	8-729-216-22	TRANSISTOR 2SA1162-G		R81	1-216-095-00	METAL GLAZE 82K 5%	1/10W
Q101	8-729-104-80	TRANSISTOR 2SC3355		R82	1-216-121-00	METAL GLAZE 1M 5%	1/10W
Q121	8-729-920-74	TRANSISTOR 2SC2412K-QR		R83	1-216-025-00	METAL GLAZE 100 5%	1/10W
< RESISTOR >				R84	1-216-085-00	METAL GLAZE 33K 5%	1/10W
JR2	1-216-295-00	METAL GLAZE 0 5%	1/10W	R85	1-216-085-00	METAL GLAZE 33K 5%	1/10W
JR3	1-216-296-00	METAL GLAZE 0 5%	1/8W	R86	1-216-689-00	METAL GLAZE 39K 5%	1/10W
JR5	1-216-296-00	METAL GLAZE 0 5%	1/8W	R87	1-216-095-00	METAL GLAZE 82K 5%	1/10W
R1	1-216-025-00	METAL GLAZE 100 5%	1/10W	R88	1-216-095-00	METAL GLAZE 82K 5%	1/10W
R2	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W	R89	1-216-095-00	METAL GLAZE 82K 5%	1/10W
R3	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W	R90	1-216-075-00	METAL GLAZE 12K 5%	1/10W
R4	1-216-041-00	METAL GLAZE 470 5%	1/10W	R91	1-216-295-00	METAL GLAZE 0 5%	1/10W
R5	1-216-021-00	METAL GLAZE 68 5%	1/10W	R92	1-216-075-00	METAL GLAZE 12K 5%	1/10W
R6	1-216-055-00	METAL GLAZE 1.8K 5%	1/10W	R93	1-216-075-00	METAL GLAZE 12K 5%	1/10W
R8	1-216-051-00	METAL GLAZE 1.2K 5%	1/10W	R94	1-216-059-00	METAL GLAZE 2.7K 5%	1/10W
R9	1-216-069-00	METAL GLAZE 6.8K 5%	1/10W	R95	1-216-059-00	METAL GLAZE 2.7K 5%	1/10W
R10	1-216-071-00	METAL GLAZE 8.2K 5%	1/10W	R96	1-216-059-00	METAL GLAZE 2.7K 5%	1/10W
R11	1-216-059-00	METAL GLAZE 2.7K 5%	1/10W	R97	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W
R11	1-216-059-00	METAL GLAZE 2.7K 5%	1/10W	R98	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W
R24	1-216-280-00	METAL GLAZE 2.7M 5%	1/8W	R99	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W
R25	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W	R100	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
R26	1-216-061-00	METAL GLAZE 3.3K 5%	1/10W	R102	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
R27	1-216-266-00	METAL GLAZE 680K 5%	1/8W	R103	1-216-063-00	METAL GLAZE 3.9K 5%	1/10W
R28	1-216-075-00	METAL GLAZE 12K 5%	1/10W	R104	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R29	1-216-035-00	METAL GLAZE 270 5%	1/10W	R105	1-216-033-00	METAL GLAZE 220 5%	1/10W
R30	1-216-049-00	METAL GLAZE 1K 5%	1/10W	R121	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R31	1-216-017-00	METAL GLAZE 47 5%	1/10W	R122	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
R32	1-216-043-00	METAL GLAZE 560 5%	1/10W	R123	1-216-041-00	METAL GLAZE 470 5%	1/10W
R33	1-216-037-00	METAL GLAZE 330 5%	1/10W	R124	1-216-041-00	METAL GLAZE 470 5%	1/10W
R34	1-216-252-00	METAL GLAZE 180K 5%	1/8W	R125	1-216-041-00	METAL GLAZE 470 5%	1/10W
R35	1-216-035-00	METAL GLAZE 270 5%	1/10W	R301	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R36	1-216-029-00	METAL GLAZE 150 5%	1/10W	R302	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R37	1-216-049-00	METAL GLAZE 1K 5%	1/10W	R303	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R38	1-216-099-00	METAL GLAZE 120K 5%	1/10W	R304	1-216-037-00	METAL GLAZE 330 5%	1/10W
R39	1-216-089-00	METAL GLAZE 47K 5%	1/10W	R305	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R40	1-216-049-00	METAL GLAZE 1K 5%	1/10W	R306	1-216-025-00	METAL GLAZE 100 5%	1/10W
R42	1-216-061-00	METAL GLAZE 3.3K 5%	1/10W	R307	1-216-037-00	METAL GLAZE 330 5%	1/10W
R43	1-216-067-00	METAL GLAZE 5.6K 5%	1/10W	R308	1-216-037-00	METAL GLAZE 330 5%	1/10W
R44	1-216-027-00	METAL GLAZE 120 5%	1/10W	< VARIABLE RESISTOR >			
R45	1-216-041-00	METAL GLAZE 470 5%	1/10W	RV2	1-241-120-11	RES, ADJ, CARBON 2.2K	
R46	1-216-031-00	METAL GLAZE 180 5%	1/10W	< TRANSFORMER >			
R47	1-216-075-00	METAL GLAZE 12K 5%	1/10W	T1	1-404-806-21	COIL	
R48	1-216-081-00	METAL GLAZE 22K 5%	1/10W	T3	1-416-012-11	COIL	
R49	1-216-049-00	METAL GLAZE 1K 5%	1/10W	T4	1-416-012-11	COIL	
R53	1-216-082-00	METAL GLAZE 24K 5%	1/10W	T5	1-402-720-11	COIL	
R54	1-216-043-00	METAL GLAZE 560 5%	1/10W	< CRYSTAL >			
R55	1-216-043-00	METAL GLAZE 560 5%	1/10W	X1	1-579-648-21	VIBRATOR, CERAMIC	
R56	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W	*****			
R57	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W	*A-1635-015-A M2 BOARD, COMPLETE			
R58	1-216-041-00	METAL GLAZE 470 5%	1/10W	*****			
R59	1-216-043-00	METAL GLAZE 560 5%	1/10W	< CAPACITOR >			
R60	1-216-043-00	METAL GLAZE 560 5%	1/10W	C001	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
R61	1-216-295-00	METAL GLAZE 0 5%	1/10W	C002	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
R63	1-216-043-00	METAL GLAZE 560 5%	1/10W	C003	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
R71	1-216-079-00	METAL GLAZE 18K 5%	1/10W				
R72	1-216-079-00	METAL GLAZE 18K 5%	1/10W				
R73	1-216-049-00	METAL GLAZE 1K 5%	1/10W				
R74	1-216-079-00	METAL GLAZE 18K 5%	1/10W				
R75	1-216-079-00	METAL GLAZE 18K 5%	1/10W				

# M2

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
C004	1-164-222-11	CERAMIC CHIP 0.22MF	25V	C2020	1-164-222-11	CERAMIC CHIP 0.22MF	25V
C007	1-163-117-00	CERAMIC CHIP 100PF	5% 50V	C2021	1-163-113-00	CERAMIC CHIP 68PF	5% 50V
C008	1-163-117-00	CERAMIC CHIP 100PF	5% 50V	C2023	1-124-907-11	ELECT 10MF	20% 50V
C010	1-163-117-00	CERAMIC CHIP 100PF	5% 50V	C2024	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
C011	1-163-117-00	CERAMIC CHIP 100PF	5% 50V	C2025	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
C012	1-163-117-00	CERAMIC CHIP 100PF	5% 50V	C2027	1-164-222-11	CERAMIC CHIP 0.22MF	25V
C014	1-163-117-00	CERAMIC CHIP 100PF	5% 50V	< FILTER >			
C016	1-163-141-00	CERAMIC CHIP 0.001MF	5% 50V	CD001	1-579-126-11	VIBRATOR, CERAMIC	
C017	1-164-222-11	CERAMIC CHIP 0.22MF	25V	< CONNECTOR >			
C018	1-164-505-11	CERAMIC CHIP 2.2MF	16V	CN1413	1-695-301-11	CONNECTOR, BOARD TO BOARD 40P	
C019	1-124-916-11	ELECT 22MF	20% 50V	CN1426	*1-568-881-51	PIN, CONNECTOR 6P	
C020	1-163-117-00	CERAMIC CHIP 100PF	5% 50V	CN1432	*1-568-882-51	PIN, CONNECTOR 7P	
C021	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	CN1435	*1-568-882-51	PIN, CONNECTOR 7P	
C022	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	< DIODE >			
C023	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	D001	8-719-027-82	DIODE MA3039H-TX	
C024	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	D2001	8-719-036-58	DIODE MA3030-H(TX)	
C025	1-164-222-11	CERAMIC CHIP 0.22MF	25V	D2002	8-719-401-31	DIODE MA3047L-TX	
C026	1-164-222-11	CERAMIC CHIP 0.22MF	25V	D2003	8-719-914-44	DIODE DAP202K	
C032	1-163-117-00	CERAMIC CHIP 100PF	5% 50V	D2007	8-719-914-44	DIODE DAP202K	
C035	1-163-033-00	CERAMIC CHIP 0.022MF	50V	< IC >			
C036	1-164-005-11	CERAMIC CHIP 0.47MF	25V	IC001	8-759-168-52	IC SDA30C162-GEG	
C037	1-163-117-00	CERAMIC CHIP 100PF	5% 50V	IC002	8-759-167-62	IC TMS27PC010A-15FML	
C039	1-163-011-11	CERAMIC CHIP 0.0015MF	10% 50V		1-750-797-11	SOCKET, PLCC (IC002)	
C042	1-162-638-11	CERAMIC CHIP 1MF	16V	IC561	8-752-347-92	IC CXD2018Q	
C044	1-163-117-00	CERAMIC CHIP 100PF	5% 50V	IC562	8-759-998-98	IC LM358D	
C522	1-163-141-00	CERAMIC CHIP 0.001MF	5% 50V	IC563	8-759-708-05	IC NJM78L05A	
C523	1-163-141-00	CERAMIC CHIP 0.001MF	5% 50V	IC2003	8-759-188-60	IC MB81C4256A-70PSZG	
C524	1-163-113-00	CERAMIC CHIP 68PF	5% 50V	< COIL >			
C525	1-164-222-11	CERAMIC CHIP 0.22MF	25V	L001	1-408-421-00	INDUCTOR 100UH	
C528	1-163-105-00	CERAMIC CHIP 33PF	5% 50V	L561	1-408-409-00	INDUCTOR 10UH	
C529	1-163-169-00	CERAMIC CHIP 33PF	5% 50V	L562	1-408-409-00	INDUCTOR 10UH	
C541	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V	L563	1-408-947-00	INDUCTOR 2.2MMH	
C542	1-163-037-11	CERAMIC CHIP 0.022MF	10% 25V	L2001	1-410-674-31	INDUCTOR 82UH	
C543	1-164-161-11	CERAMIC CHIP 0.0022MF	10% 50V	< TRANSISTOR >			
C544	1-164-161-11	CERAMIC CHIP 0.0022MF	10% 50V	Q002	8-729-216-22	TRANSISTOR 2SA1162-G	
C546	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	Q003	8-729-920-74	TRANSISTOR 2SC2412K-QR	
C547	1-163-020-00	CERAMIC CHIP 0.0082MF	10% 50V	Q564	8-729-216-22	TRANSISTOR 2SA1162-G	
C549	1-163-989-11	CERAMIC CHIP 0.033MF	10% 25V	Q565	8-729-920-74	TRANSISTOR 2SC2412K-QR	
C550	1-163-141-00	CERAMIC CHIP 0.001MF	5% 50V	Q566	8-729-920-74	TRANSISTOR 2SC2412K-QR	
C559	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	Q567	8-729-901-01	TRANSISTOR DTC144EK	
C560	1-164-161-11	CERAMIC CHIP 0.0022MF	10% 50V	Q2001	8-729-920-74	TRANSISTOR 2SC2412K-QR	
C563	1-163-031-11	CERAMIC CHIP 0.01MF	50V	Q2002	8-729-920-74	TRANSISTOR 2SC2412K-QR	
C564	1-163-031-11	CERAMIC CHIP 0.01MF	50V	Q2003	8-729-216-22	TRANSISTOR 2SA1162-G	
C565	1-163-031-11	CERAMIC CHIP 0.01MF	50V	Q2004	8-729-920-74	TRANSISTOR 2SC2412K-QR	
C566	1-163-031-11	CERAMIC CHIP 0.01MF	50V	Q2005	8-729-920-74	TRANSISTOR 2SC2412K-QR	
C567	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V	Q2006	8-729-901-01	TRANSISTOR DTC144EK-T146	
C568	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V	Q2008	8-729-901-00	TRANSISTOR DTC124EK-T146	
C569	1-164-161-11	CERAMIC CHIP 0.0022MF	10% 50V	< RESISTOR >			
C570	1-162-568-11	CERAMIC CHIP 0.33MF	10% 16V	JR552	1-216-296-00	METAL GLAZE 0 5% 1/8W	
C2001	1-163-235-11	CERAMIC CHIP 22PF	5% 50V	JR553	1-216-295-00	METAL GLAZE 0 5% 1/10W	
C2002	1-163-235-11	CERAMIC CHIP 22PF	5% 50V	JR555	1-216-296-00	METAL GLAZE 0 5% 1/8W	
C2004	1-164-222-11	CERAMIC CHIP 0.22MF	25V	R001	1-216-025-00	METAL GLAZE 100 5% 1/10W	
C2005	1-163-038-00	CERAMIC CHIP 0.1MF	25V	R002	1-216-025-00	METAL GLAZE 100 5% 1/10W	
C2006	1-163-038-00	CERAMIC CHIP 0.1MF	25V				
C2008	1-164-222-11	CERAMIC CHIP 0.22MF	25V				
C2009	1-163-105-00	CERAMIC CHIP 33PF	5% 50V				
C2016	1-164-222-11	CERAMIC CHIP 0.22MF	25V				
C2017	1-164-222-11	CERAMIC CHIP 0.22MF	25V				
C2018	1-164-505-11	CERAMIC CHIP 2.2MF	16V				
C2019	1-124-916-11	ELECT 22MF	20% 50V				

REF.NO.	PART NO.	DESCRIPTION	REMARK			REF.NO.	PART NO.	DESCRIPTION	REMARK		
R003	1-216-049-00	METAL GLAZE	1K	5%	1/10W	R567	1-216-085-00	METAL GLAZE	33K	5%	1/10W
R004	1-216-049-00	METAL GLAZE	1K	5%	1/10W	R568	1-216-109-00	METAL GLAZE	330K	5%	1/10W
R005	1-216-295-00	METAL GLAZE	0	5%	1/10W	R570	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R006	1-216-049-00	METAL GLAZE	1K	5%	1/10W	R2001	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R007	1-216-073-00	METAL GLAZE	10K	5%	1/10W	R2002	1-216-043-00	METAL GLAZE	560	5%	1/10W
R008	1-216-049-00	METAL GLAZE	1K	5%	1/10W	R2003	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R010	1-216-049-00	METAL GLAZE	1K	5%	1/10W	R2004	1-216-037-00	METAL GLAZE	330	5%	1/10W
R011	1-216-049-00	METAL GLAZE	1K	5%	1/10W	R2005	1-216-041-00	METAL GLAZE	470	5%	1/10W
R012	1-216-049-00	METAL GLAZE	1K	5%	1/10W	R2007	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R013	1-216-049-00	METAL GLAZE	1K	5%	1/10W	R2008	1-216-025-00	METAL GLAZE	100	5%	1/10W
R014	1-216-049-00	METAL GLAZE	1K	5%	1/10W	R2009	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R016	1-216-045-00	METAL GLAZE	680	5%	1/10W	R2010	1-216-025-00	METAL GLAZE	100	5%	1/10W
R017	1-216-049-00	METAL GLAZE	1K	5%	1/10W	R2011	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R018	1-216-041-00	METAL GLAZE	470	5%	1/10W	R2012	1-216-029-00	METAL GLAZE	150	5%	1/10W
R019	1-216-049-00	METAL GLAZE	1K	5%	1/10W	R2013	1-216-029-00	METAL GLAZE	150	5%	1/10W
R020	1-216-049-00	METAL GLAZE	1K	5%	1/10W	R2014	1-216-029-00	METAL GLAZE	150	5%	1/10W
R021	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	R2015	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R022	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	R2016	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R023	1-216-025-00	METAL GLAZE	100	5%	1/10W	R2017	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R024	1-216-049-00	METAL GLAZE	1K	5%	1/10W	R2018	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R025	1-216-049-00	METAL GLAZE	1K	5%	1/10W	R2019	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R026	1-216-049-00	METAL GLAZE	1K	5%	1/10W	R2020	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R027	1-216-049-00	METAL GLAZE	1K	5%	1/10W	R2021	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R028	1-216-075-00	METAL GLAZE	12K	5%	1/10W	R2025	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W
R030	1-216-049-00	METAL GLAZE	1K	5%	1/10W	R2026	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R032	1-216-049-00	METAL GLAZE	1K	5%	1/10W	R2028	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W
R033	1-216-049-00	METAL GLAZE	1K	5%	1/10W	R2030	1-216-295-00	METAL GLAZE	0	5%	1/10W
R034	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	R2032	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R035	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	R2033	1-216-295-00	METAL GLAZE	0	5%	1/10W
R038	1-216-073-00	METAL GLAZE	10K	5%	1/10W	R2035	1-216-075-00	METAL GLAZE	12K	5%	1/10W
R049	1-216-049-00	METAL GLAZE	1K	5%	1/10W	R2036	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R050	1-216-073-00	METAL GLAZE	10K	5%	1/10W	R2037	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R051	1-216-081-00	METAL GLAZE	22K	5%	1/10W						
R052	1-216-073-00	METAL GLAZE	10K	5%	1/10W						
R053	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W						
R054	1-216-081-00	METAL GLAZE	22K	5%	1/10W						
R055	1-216-081-00	METAL GLAZE	22K	5%	1/10W						
R067	1-216-043-00	METAL GLAZE	560	5%	1/10W						
R068	1-216-043-00	METAL GLAZE	560	5%	1/10W						
R069	1-216-037-00	METAL GLAZE	330	5%	1/10W						
R070	1-216-037-00	METAL GLAZE	330	5%	1/10W						
R071	1-216-198-91	METAL GLAZE	1K	5%	1/8W						
R535	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W						
R536	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W						
R538	1-216-025-00	METAL GLAZE	100	5%	1/10W						
R539	1-216-657-11	METAL CHIP	1.8K	0.50%	1/10W						
R541	1-216-049-00	METAL GLAZE	1K	5%	1/10W						
R542	1-216-025-00	METAL GLAZE	100	5%	1/10W						
R544	1-216-085-00	METAL GLAZE	33K	5%	1/10W						
R545	1-216-033-00	METAL GLAZE	220	5%	1/10W						
R546	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W						
R547	1-216-049-00	METAL GLAZE	1K	5%	1/10W						
R551	1-216-049-00	METAL GLAZE	1K	5%	1/10W						
R552	1-216-097-00	METAL GLAZE	100K	5%	1/10W						
R553	1-216-085-00	METAL GLAZE	33K	5%	1/10W						
R559	1-216-049-00	METAL GLAZE	1K	5%	1/10W						
R560	1-216-073-00	METAL GLAZE	10K	5%	1/10W						
R564	1-216-091-00	METAL GLAZE	56K	5%	1/10W						
R565	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W						
R566	1-216-073-00	METAL GLAZE	10K	5%	1/10W						

< CRYSTAL >

X2001 1-579-965-21 VIBRATOR, CRYSTAL

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\*A-1638-042-A C BOARD, COMPLETE  
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< CAPACITOR >

C701	1-162-114-00	CERAMIC	0.0047MF		2KV
C703	1-123-946-00	ELECT	4.7MF	20%	250V
C705	1-162-116-00	CERAMIC	680PF	10%	2KV
C708	1-163-197-00	CERAMIC CHIP	470PF	10%	50V
C709	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C710	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C711	1-101-880-00	CERAMIC	47PF	5%	50V
C712	1-163-121-00	CERAMIC CHIP	150PF	5%	50V
C713	1-163-121-00	CERAMIC CHIP	150PF	5%	50V
C714	1-163-121-00	CERAMIC CHIP	150PF	5%	50V
C716	1-124-478-11	ELECT	100MF	20%	25V

< CONNECTOR >

CN0002	1-508-786-00	PIN, CONNECTOR (5MM PITCH)	2P
CN0403	1-564-511-11	PLUG, CONNECTOR	8P
CN0421	*1-508-768-00	PIN, CONNECTOR (5MM PITCH)	6P

C

D5

shading and marked A are critical  
for safety.  
Replace only with the part number  
specified.

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
< DIODE >				R720	1-249-417-11	CARBON 1K 5% 1/4W	F
D701	8-719-901-33	DIODE 1SS133		R722	1-247-713-11	CARBON 1K 5% 1/4W	F
D702	8-719-901-33	DIODE 1SS133		R724	1-249-417-11	CARBON 1K 5% 1/4W	F
D703	8-719-901-33	DIODE 1SS133		R725	1-216-067-00	METAL GLAZE 5.6K 5% 1/10W	
D704	8-719-901-33	DIODE 1SS133		R726	1-216-067-00	METAL GLAZE 5.6K 5% 1/10W	
D705	8-719-901-33	DIODE 1SS133		R727	1-216-067-00	METAL GLAZE 5.6K 5% 1/10W	
D706	8-719-901-33	DIODE 1SS133		R728	1-216-037-00	METAL GLAZE 330 5% 1/10W	
D707	8-719-901-33	DIODE 1SS133		R729	1-216-037-00	METAL GLAZE 330 5% 1/10W	
D708	8-719-901-33	DIODE 1SS133		R730	1-216-037-00	METAL GLAZE 330 5% 1/10W	
D709	8-719-901-33	DIODE 1SS133		R731	1-216-017-00	METAL GLAZE 47 5% 1/10W	
D710	8-719-901-33	DIODE 1SS133		R732	1-216-017-00	METAL GLAZE 47 5% 1/10W	
D713	8-719-908-03	DIODE GP08D		R733	1-216-017-00	METAL GLAZE 47 5% 1/10W	
< JACK >				R734	1-202-549-00	SOLID 100 20% 1/2W	
J701	1-526-990-21	SOCKET, CRT		R735	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
< COIL >				R738	1-216-025-00	METAL GLAZE 100 5% 1/10W	
L701	1-410-667-31	INDUCTOR 22UH		R739	1-216-025-00	METAL GLAZE 100 5% 1/10W	
L703	1-408-609-41	INDUCTOR 33UH		R740	1-216-025-00	METAL GLAZE 100 5% 1/10W	
L705	1-408-609-41	INDUCTOR 33UH		R741	1-216-089-91	METAL GLAZE 47K 5% 1/10W	
L707	1-408-609-41	INDUCTOR 33UH		R742	1-216-029-00	METAL GLAZE 150 5% 1/10W	
< TRANSISTOR >				R743	1-249-434-11	CARBON 27K 5% 1/4W	
Q701	8-729-906-70	TRANSISTOR BF871		R747	1-216-489-11	METAL OXIDE 27K 5% 3W	F
Q702	8-729-906-70	TRANSISTOR BF871		R749	1-216-490-11	METAL OXIDE 39K 5% 3W	F
Q703	8-729-906-70	TRANSISTOR BF871		R751	1-215-926-00	METAL OXIDE 33K 5% 3W	F
Q704	8-729-906-70	TRANSISTOR BF871		R753	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
Q705	8-729-906-70	TRANSISTOR BF871		R758	1-249-419-11	CARBON 1.5K 5% 1/4W	
Q706	8-729-906-70	TRANSISTOR BF871		R759	1-249-419-11	CARBON 1.5K 5% 1/4W	
Q707	8-729-200-17	TRANSISTOR 2SA1091-0		R760	1-249-419-11	CARBON 1.5K 5% 1/4W	
Q708	8-729-200-17	TRANSISTOR 2SA1091-0		< VARIABLE RESISTOR >			
Q709	8-729-200-17	TRANSISTOR 2SA1091-0		RV701	1-230-641-11	RES, ADJ, METAL GLAZE 2.2M	
Q710	8-729-920-74	TRANSISTOR 2SC2412K-QR		RV702	1-241-656-11	RES, ADJ, METAL FILM 110M	
Q711	8-729-920-74	TRANSISTOR 2SC2412K-QR		*****			
Q712	8-729-920-74	TRANSISTOR 2SC2412K-QR		*A-1640-109-A D5 BOARD, COMPLETE			
Q713	8-729-216-22	TRANSISTOR 2SA1162-G		*****			
Q714	8-729-255-12	TRANSISTOR 2SC2551-0		< CAPACITOR >			
< RESISTOR >				C803	1-164-695-11	CERAMIC CHIP 0.0022MF 5% 50V	
JR701	1-216-296-00	METAL GLAZE 0 5% 1/8W		C804	1-136-161-00	FILM 0.047MF 5% 50V	
JR703	1-216-296-00	METAL GLAZE 0 5% 1/8W		C806	1-124-907-11	ELECT 10MF 20% 50V	
R701	1-202-848-00	SOLID 680K 10% 1/2W		C807	1-106-383-00	MYLAR 0.047MF 10% 100V	
R702	1-202-838-00	SOLID 100K 20% 1/2W		C823	1-136-177-00	FILM 1MF 5% 50V	
R703	1-202-838-00	SOLID 100K 20% 1/2W		C827	1-136-177-00	FILM 1MF 5% 50V	
R704	1-202-842-11	SOLID 220K 10% 1/2W		C847	1-164-337-11	CERAMIC CHIP 2.2MF 16V	
R705	1-216-398-11	METAL OXIDE 5.6 5% 3W	F	C852	1-164-299-11	CERAMIC CHIP 0.22MF 10% 25V	
R706	1-216-398-11	METAL OXIDE 5.6 5% 3W	F	C853	1-124-477-11	ELECT 47MF 20% 25V	
R707	1-249-421-11	CARBON 2.2K 5% 1/4W		C857	1-124-902-00	ELECT 0.47MF 20% 50V	
R708	1-249-421-11	CARBON 2.2K 5% 1/4W		C861	1-130-777-00	FILM 0.1MF 5% 63V	
R709	1-249-421-11	CARBON 2.2K 5% 1/4W		C866	1-137-364-11	FILM 0.001MF 5% 50V	
R710	1-215-899-11	METAL OXIDE 15K 5% 2W	F	C870	1-137-364-11	FILM 0.001MF 5% 50V	
R711	1-202-820-11	SOLID 1.5K 20% 1/2W		C871	1-130-651-00	FILM 0.001MF 2% 100V	
R712	1-215-899-11	METAL OXIDE 15K 5% 2W	F	C872	1-124-907-11	ELECT 10MF 20% 50V	
R713	1-202-820-11	SOLID 1.5K 20% 1/2W		C873	1-137-364-11	FILM 0.001MF 5% 50V	
R714	1-215-899-11	METAL OXIDE 15K 5% 2W	F	< CONNECTOR >			
R715	1-202-820-11	SOLID 1.5K 20% 1/2W		CN2044	*1-573-299-11	CONNECTOR, BOARD TO BOARD 10P	
R716	1-247-700-11	CARBON 100 5% 1/4W	F	< DIODE >			
R717	1-247-807-31	CARBON 100 5% 1/4W	F	D804	8-719-901-33	DIODE 1SS133	
R718	1-247-700-11	CARBON 100 5% 1/4W	F				

D5

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REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
D808	8-719-109-88	DIODE RD5.6ESB1		C615	1-128-127-51	ELECT 2200MF	20% 25V
D818	8-719-109-93	DIODE RD6.2ESB2		C616	1-162-115-00	CERAMIC 330PF	10% 1KV
D821	8-719-914-44	DIODE DAP202K		C617	1-162-116-00	CERAMIC 680PF	10% 2KV
D827	8-719-982-96	DIODE MT2J-T-77-2.2A		C618	1-162-134-11	CERAMIC 470PF	10% 2KV
D830	8-719-914-44	DIODE DAP202K		C619	1-102-030-00	CERAMIC 330PF	10% 500V
D831	8-719-914-43	DIODE DAN202K		C620	1-164-299-11	CERAMIC CHIP 0.22MF	10% 25V
D832	8-719-914-44	DIODE DAP202K		C621	1-124-347-00	ELECT 100MF	20% 160V
D833	8-719-914-44	DIODE DAP202K		C622	1-128-320-11	ELECT 2200MF	20% 16V
< IC >				C623	1-102-030-00	CERAMIC 330PF	10% 500V
IC802	8-759-103-93	IC UPC393C		C624	1-126-800-51	ELECT 2200MF	20% 35V
< TRANSISTOR >				C625	1-126-800-51	ELECT 2200MF	20% 35V
Q804	8-729-216-22	TRANSISTOR 2SA1162-G		C627	1-136-553-11	FILM 0.0015MF	10% 400V
Q805	8-729-216-22	TRANSISTOR 2SA1162-G		C628	1-124-477-11	ELECT 47MF	20% 25V
Q812	8-729-920-74	TRANSISTOR 2SC2412K-QR		C629	1-124-907-11	ELECT 10MF	20% 50V
Q818	8-729-216-22	TRANSISTOR 2SA1162-G		C631	1-163-075-00	CERAMIC CHIP 0.047MF	10% 25V
< RESISTOR >				C632	1-137-372-11	FILM 0.022MF	5% 50V
JR802	1-216-295-00	METAL GLAZE 0	5% 1/10W	C633	1-164-299-11	CERAMIC CHIP 0.22MF	10% 25V
JR803	1-216-295-00	METAL GLAZE 0	5% 1/10W	C636	1-130-777-00	FILM 0.1MF	5% 63V
JR804	1-216-295-00	METAL GLAZE 0	5% 1/10W	C640	1-124-916-11	ELECT 22MF	20% 50V
R802	1-216-077-00	METAL GLAZE 15K	5% 1/10W	C645	1-128-571-11	ELECT 56MF	20% 50V
R805	1-216-679-11	METAL CHIP 15K	0.50% 1/10W	C646	1-124-798-11	ELECT 1MF	20% 160V
R806	1-216-061-00	METAL GLAZE 3.3K	5% 1/10W	C647	1-124-907-11	ELECT 10MF	20% 50V
R808	1-216-085-00	METAL GLAZE 33K	5% 1/10W	C801	1-137-116-11	FILM 1MF	5% 200V
R809	1-216-097-00	METAL GLAZE 100K	5% 1/10W	C805	1-124-902-00	ELECT 0.47MF	20% 50V
R813	1-216-065-00	METAL GLAZE 4.7K	5% 1/10W	C808	1-162-114-00	CERAMIC 0.0047MF	2KV
R814	1-216-091-00	METAL GLAZE 56K	5% 1/10W	C809	1-124-808-51	ELECT 10MF	20% 200V
R815	1-216-081-00	METAL GLAZE 22K	5% 1/10W	C810	1-163-001-11	CERAMIC CHIP 220PF	10% 50V
R820	1-216-097-00	METAL GLAZE 100K	5% 1/10W	C812	1-162-318-11	CERAMIC 0.001MF	10% 500V
R824	1-216-675-11	METAL CHIP 10K	0.50% 1/10W	C813	1-108-704-11	MYLAR 0.1MF	10% 200V
R828	1-216-121-00	METAL GLAZE 1M	5% 1/10W	C815	1-162-117-00	CERAMIC 100PF	10% 500V
R829	1-249-429-11	CARBON 10K	5% 1/4W F	C819	1-126-103-11	ELECT 470MF	20% 16V
R830	1-216-687-11	METAL CHIP 33K	0.50% 1/10W	C821	1-137-063-11	FILM 0.018MF	3% 0
R832	1-216-083-00	METAL GLAZE 27K	5% 1/10W	C822	1-162-116-00	CERAMIC 680PF	10% 2KV
R834	1-216-079-00	METAL GLAZE 18K	5% 1/10W	C824	1-137-366-11	FILM 0.0022MF	5% 50V
R835	1-216-057-00	METAL GLAZE 2.2K	5% 1/10W	C825	1-162-116-00	CERAMIC 680PF	10% 2KV
R837	1-216-695-11	METAL CHIP 68K	0.50% 1/10W	C826	1-137-515-11	FILM 0.056MF	3% 400V
R838	1-216-073-00	METAL GLAZE 10K	5% 1/10W	C828	1-136-557-11	FILM 0.0033MF	10% 400V
R846	1-216-671-11	METAL CHIP 6.8K	0.50% 1/10W	C830	1-136-189-00	FILM 0.1MF	5% 250V
R847	1-216-699-11	METAL CHIP 100K	0.50% 1/10W	C831	1-123-932-00	ELECT 4.7MF	20% 160V
R867	1-216-113-00	METAL GLAZE 470K	5% 1/10W	C832	1-124-477-11	ELECT 47MF	20% 25V
R884	1-216-693-11	METAL CHIP 56K	0.50% 1/10W	C833	1-136-126-00	FILM 0.82MF	5% 400V
R891	1-216-079-00	METAL GLAZE 18K	5% 1/10W	C834	1-137-114-11	FILM 0.68MF	5% 200V
*****				C835	1-124-480-11	ELECT 470MF	20% 25V
*A-1642-097-A D BOARD, COMPLETE				C836	1-102-228-00	CERAMIC 470PF	10% 500V
*****				C837	1-129-702-00	FILM 0.001MF	10% 400V
< CAPACITOR >				C838	1-108-704-11	MYLAR 0.1MF	10% 200V
C601	1-130-202-00	FILM 0.022MF	10% 400V	C839	1-123-950-00	ELECT 47MF	20% 250V
C602	1-162-116-00	CERAMIC 680PF	10% 2KV	C840	1-124-480-11	ELECT 470MF	20% 25V
C603	1-164-503-61	CERAMIC 0.0022MF	20% 400V	C841	1-102-228-00	CERAMIC 470PF	10% 500V
C605	1-124-910-11	ELECT 47MF	20% 50V	C842	1-136-208-11	FILM 0.068MF	10% 250V
C608	1-124-903-11	ELECT 1MF	20% 50V	C843	1-124-907-11	ELECT 10MF	20% 50V
C611	1-102-002-00	CERAMIC 680PF	10% 500V	C846	1-123-024-21	ELECT 33MF	160V
C612	1-130-481-00	FILM 0.0068MF	5% 50V	C851	1-137-364-11	FILM 0.001MF	5% 50V
C613	1-129-722-00	FILM 0.047MF	10% 630V	C854	1-161-754-00	CERAMIC 0.001MF	10% 2KV
C614	1-102-030-00	CERAMIC 330PF	10% 500V	C863	1-106-383-00	MYLAR 0.047MF	10% 100V
				C869	1-130-777-00	FILM 0.1MF	5% 63V
				C875	1-102-038-00	CERAMIC 0.001MF	500V
				C877	1-124-902-00	ELECT 0.47MF	20% 50V
				C878	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
				C879	1-102-228-00	CERAMIC 470PF	10% 500V



shading and marked  $\Delta$  are critical for safety.  
Replace only with the part number specified.

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
C882	1-106-383-00	MYLAR 0.047MF	10% 100V	D826	8-719-914-43	DIODE DAN202K	
C1501	1-163-141-00	CERAMIC CHIP 0.001MF	5% 50V	D828	8-719-901-33	DIODE 1SS133	
C1502	1-124-903-11	ELECT 1MF	20% 50V	D1501	8-719-914-43	DIODE DAN202K	
C1503	1-163-141-00	CERAMIC CHIP 0.001MF	5% 50V	D1503	8-719-908-03	DIODE GP08D	
C1504	1-124-480-11	ELECT 470MF	20% 25V	D1504	8-719-982-03	DIODE MTZJ-3.6A	
C1505	1-124-911-11	ELECT 220MF	20% 50V	< IC >			
C1506	1-136-202-11	FILM 0.33MF	5% 63V	IC601	8-759-073-29	IC TDA4605-3	
C1507	1-137-423-11	MYLAR 0.15MF	10% 100V	IC602	8-759-908-15	IC TL431CLP	
C1508	1-124-480-11	ELECT 470MF	20% 25V	IC603	8-749-923-44	IC SPH617G-1	
C1509	1-124-767-00	ELECT 2.2MF	20% 50V	IC801	8-759-103-93	IC UPC393C	
C1511	1-124-907-11	ELECT 10MF	20% 50V	IC803	8-759-081-31	IC MC78L12ACPRP	
C1512	1-124-006-11	ELECT 10MF	20% 25V	IC1501	8-759-506-46	IC STV9879	
C1514	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	< COIL >			
C1515	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	L602	1-410-397-21	FERRITE BEAD INDUCTOR 1.1UH	
< CONNECTOR >				L603	1-410-396-41	FERRITE BEAD INDUCTOR 0.45UH	
DY1	*1-580-798-11	CONNECTOR PIN (DY) 6P		L604	1-410-396-41	FERRITE BEAD INDUCTOR 0.45UH	
CN0004	1-508-786-00	PIN, CONNECTOR (5MM PITCH) 2P		L605	1-412-528-11	INDUCTOR 18UH	
CN0009	1-568-878-51	PIN, CONNECTOR 3P		L606	1-412-528-11	INDUCTOR 18UH	
CN0504	1-564-511-11	PLUG, CONNECTOR 8P		L610	1-410-397-21	FERRITE BEAD INDUCTOR 1.1UH	
CN0505	*1-568-880-51	PIN, CONNECTOR 5P		L622	1-412-533-21	INDUCTOR 47UH	
CN0506	*1-568-880-51	PIN, CONNECTOR 5P		L623	1-412-533-21	INDUCTOR 47UH	
CN0519	*1-568-878-51	PIN, CONNECTOR 3P		L802	1-408-947-00	INDUCTOR 2.2MMH	
CN0521	1-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P		L803	1-420-872-00	COIL, AIR CORE	
CN0523	1-573-296-11	CONNECTOR, BOARD TO BOARD 10P		L804	1-410-396-41	FERRITE BEAD INDUCTOR 0.45UH	
CN0524	*1-568-878-51	PIN, CONNECTOR 3P		L807	1-412-540-31	INDUCTOR 180UH	
CN0525	*1-695-294-11	PIN, CONNECTOR (PC BOARD) 6P		L808	1-412-552-31	INDUCTOR 2.2MMH	
CN0526	*1-568-881-51	PIN, CONNECTOR 6P		L809	1-459-104-00	COIL, WITH CORE	
CN0529	1-508-784-00	PIN, CONNECTOR (5MM PITCH) 1P		L810	1-460-197-21	COIL, FERRITE (PMC)	
CN0544	1-573-296-11	CONNECTOR, BOARD TO BOARD 10P		L811	1-412-519-11	INDUCTOR 3.3UH	
CN5521	*1-568-878-51	PIN, CONNECTOR 3P		L812	1-412-519-11	INDUCTOR 3.3UH	
< DIODE >				L813	1-412-519-11	INDUCTOR 3.3UH	
D601	8-719-914-44	DIODE DAP202K		L817	1-423-963-11	TRANSFORMER, LINEARITY (HLT)	
D602	8-719-302-43	DIODE RGP10GPKG23		L818	1-459-104-00	COIL, WITH CORE	
D604	8-719-110-39	DIODE RD15ESB1		L1501	1-412-525-21	INDUCTOR 10UH	
D605	8-719-975-56	DIODE 1SS120A		L1502	1-412-525-21	INDUCTOR 10UH	
D606	8-719-302-43	DIODE RGP10GPKG23		L1503	1-412-525-21	INDUCTOR 10UH	
D607	8-719-302-43	DIODE RGP10GPKG23		< IC LINK >			
D608	8-719-300-33	DIODE RU-3AM		PS601	1-532-686-91	LINK, IC 2.7A	
D616	8-719-110-31	DIODE RD12ESB2		PS602	1-532-686-91	LINK, IC 2.7A	
D619	8-719-914-43	DIODE DAN202K		PS603	1-532-686-91	LINK, IC 2.7A	
D620	8-719-901-33	DIODE 1SS133		PS604	1-532-686-91	LINK, IC 2.7A	
D621	8-719-302-43	DIODE EL1Z		< TRANSISTOR >			
D624	8-719-312-39	DIODE R2K-V1		Q601	8-729-016-14	TRANSISTOR BUZ91A-E3155	
D801	8-719-018-82	DIODE RGP02-20EL-6394			4-200-001-01	HOLDER, IC (IC601)	
D802	8-719-302-43	DIODE EL1Z		Q602	8-729-177-22	TRANSISTOR 2SB772-Q	
D803	8-719-982-27	DIODE MTZJ-33C		Q603	8-729-900-53	TRANSISTOR DTC114EK	
D809	8-719-110-03	DIODE RD7.5ESB2		Q604	8-729-209-15	TRANSISTOR 2SD2012	
D811	8-719-300-33	DIODE ERB44-06TP1		Q605	8-729-255-12	TRANSISTOR 2SC2551-O	
D812	8-719-908-03	DIODE GP08D		Q606	8-729-216-22	TRANSISTOR 2SA1162-G	
D813	8-719-908-03	DIODE GP08D		Q611	8-729-119-78	TRANSISTOR 2SC2785-HFE	
D814	8-719-028-29	DIODE RU30ALFS1		Q612	8-729-903-29	TRANSISTOR DTA144TK	
D815	8-719-302-43	DIODE EL1Z		Q613	8-729-216-22	TRANSISTOR 2SA1162-G	
D816	8-719-979-85	DIODE EGP20G		Q802	8-729-140-97	TRANSISTOR 2SB734-34	
D822	8-719-982-20	DIODE MTZJ-30B		Q807	8-729-119-80	TRANSISTOR 2SC2688-LK	
D824	8-719-028-72	DIODE RGP02-17EL-6433		Q813	8-729-140-96	TRANSISTOR 2SD774-34	
D825	8-719-914-43	DIODE DAN202K		Q1501	8-729-920-74	TRANSISTOR 2SC2412K-QR	
				Q1502	8-729-901-01	TRANSISTOR DTC144EK	



REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
Q1503	8-729-216-22	TRANSISTOR 2SA1162-G		R821	1-216-481-11	METAL OXIDE 1.2K 5%	3W F
Q1504	8-729-901-01	TRANSISTOR DTC144EK		R822	1-216-481-11	METAL OXIDE 1.2K 5%	3W F
< RESISTOR >				R823	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
R602	1-216-081-00	METAL GLAZE 22K 5%	1/10W	R825	1-216-342-11	METAL OXIDE 0.27 5%	1W F
R603	1-215-901-00	METAL OXIDE 33K 5%	2W F	R826	1-216-166-00	METAL GLAZE 47 5%	1/8W
R604	1-260-200-11	CARBON 240K 5%	1/2W	R833	1-216-105-00	METAL GLAZE 220K 5%	1/10W
R605	1-216-295-00	METAL GLAZE 0 5%	1/10W	R836	1-216-242-00	METAL GLAZE 68K 5%	1/8W
R606	1-216-035-00	METAL GLAZE 270 5%	1/10W	R839	1-216-063-00	METAL GLAZE 3.9K 5%	1/10W
R607	1-216-210-00	METAL GLAZE 3.3K 5%	1/8W	R840	1-216-097-00	METAL GLAZE 100K 5%	1/10W
R608	1-215-903-11	METAL OXIDE 68K 5%	2W F	R841	1-249-397-11	CARBON 22 5%	1/4W F
R609	1-249-395-11	CARBON 15 5%	1/4W	R842	1-216-454-11	METAL OXIDE 390 5%	2W F
R610	1-247-881-00	CARBON 120K 5%	1/4W	R848	1-215-885-00	METAL OXIDE 68 5%	2W F
R611	1-215-886-11	METAL OXIDE 100 5%	2W F	R849	1-215-884-11	METAL OXIDE 47 5%	2W F
R612	1-247-894-11	CARBON 430K 5%	1/4W	R851	1-247-743-11	CARBON 220 5%	1/2W F
R613	1-216-260-11	METAL GLAZE 390K 5%	1/8W	R852	1-249-389-11	CARBON 4.7 5%	1/4W F
R614	1-216-488-11	METAL OXIDE 18K 5%	3W F	R853	1-249-443-11	CARBON 0.47 5%	1/4W F
R615	1-216-488-11	METAL OXIDE 18K 5%	3W F	R854	1-249-443-11	CARBON 0.47 5%	1/4W F
R618	1-216-449-11	METAL OXIDE 56 5%	2W F	R855	1-202-826-00	SOLID 4.7K 20%	1/2W
R620	1-216-045-00	METAL GLAZE 680 5%	1/10W	R858	1-249-423-11	CARBON 3.3K 5%	1/4W
R621	1-216-659-11	METAL CHIP 2.2K 0.50%	1/10W	R864	1-216-686-11	METAL CHIP 30K 0.50%	1/10W
R622	1-216-041-00	METAL GLAZE 470 5%	1/10W	R868	1-249-426-11	CARBON 5.6K 5%	1/4W
R623	1-216-073-00	METAL GLAZE 10K 5%	1/10W	R871	1-214-907-00	METAL 56K 1%	1/2W
R625	1-216-449-11	METAL OXIDE 56 5%	2W F	R872	1-249-393-11	CARBON 10 5%	1/4W F
R626	1-216-635-11	METAL CHIP 220 0.50%	1/10W	R873	1-249-393-11	CARBON 10 5%	1/4W F
R627	1-249-398-11	CARBON 27 5%	1/4W F	R876	1-249-421-11	CARBON 2.2K 5%	1/4W
R629	1-215-464-00	METAL 62K 1%	1/4W	R877	1-215-907-11	METAL OXIDE 22 5%	3W F
R630	1-249-421-11	CARBON 2.2K 5%	1/4W	R889	1-216-089-91	METAL GLAZE 47K 5%	1/10W
R631	1-216-398-11	METAL OXIDE 5.6 5%	3W F	R893	1-215-878-00	METAL OXIDE 33K 5%	1W F
R633	1-249-415-11	CARBON 680 5%	1/4W	R894	1-216-264-00	METAL GLAZE 560K 5%	1/8W
R634	1-215-477-00	METAL 220K 1%	1/4W	R895	1-216-095-00	METAL GLAZE 82K 5%	1/10W
R635	1-216-073-00	METAL GLAZE 10K 5%	1/10W	R897	1-216-089-91	METAL GLAZE 47K 5%	1/10W
R636	1-215-925-11	METAL OXIDE 22K 5%	3W F	R898	1-216-262-00	METAL GLAZE 470K 5%	1/8W
R637	1-216-113-00	METAL GLAZE 470K 5%	1/10W	R899	1-249-377-11	CARBON 0.47 5%	1/4W F
R638	1-216-073-00	METAL GLAZE 10K 5%	1/10W	R1501	1-216-676-11	METAL CHIP 11K 0.50%	1/10W
R639	1-216-089-91	METAL GLAZE 47K 5%	1/10W	R1502	1-216-666-11	METAL CHIP 4.3K 0.50%	1/10W
R640	1-207-905-00	WIREWOUND 0.27 10%	2W F	R1503	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
R642	1-216-374-00	METAL OXIDE 2.7 5%	2W F	R1504	1-216-081-00	METAL GLAZE 22K 5%	1/10W
R643	1-249-417-11	CARBON 1K 5%	1/4W	R1505	1-216-081-00	METAL GLAZE 22K 5%	1/10W
R645	1-215-464-00	METAL 62K 1%	1/4W	R1506	1-216-053-00	METAL GLAZE 1.5K 5%	1/10W
R646	1-216-097-00	METAL GLAZE 100K 5%	1/10W	R1508	1-216-683-11	METAL CHIP 22K 0.50%	1/10W
R647	1-216-059-00	METAL GLAZE 2.7K 5%	1/10W	R1509	1-216-689-11	METAL CHIP 39K 0.50%	1/10W
R648	1-249-424-11	CARBON 3.9K 5%	1/4W	R1510	1-249-382-11	CARBON 1.2 5%	1/4W F
R649	1-216-270-00	METAL GLAZE 1M 5%	1/8W	R1511	1-215-888-00	METAL OXIDE 220 5%	2W F
R650	1-216-113-00	METAL GLAZE 470K 5%	1/10W	R1512	1-216-370-11	METAL OXIDE 1.2 5%	2W F
R651	1-216-069-00	METAL GLAZE 6.8K 5%	1/10W	R1514	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R652	1-216-109-00	METAL GLAZE 330K 5%	1/10W	R1550	1-216-113-00	METAL GLAZE 470K 5%	1/10W
R653	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W	R1551	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
R654	1-215-904-11	METAL OXIDE 100K 5%	2W F	R1552	1-216-113-00	METAL GLAZE 470K 5%	1/10W
R655	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W	FS046	1-249-399-11	CARBON 33 5%	1/4W F
R656	1-216-033-00	METAL GLAZE 220 5%	1/10W	< VARIABLE RESISTOR >			
R657	1-247-811-31	CARBON 150 5%	1/4W	RV601	1-241-628-11	RES, ADJ, CARBON 2.2K	
R658	1-249-403-11	CARBON 68 5%	1/4W	< TRANSFORMER >			
R801	1-216-069-00	METAL GLAZE 6.8K 5%	1/10W	T601	1-423-738-11	S.R.T (SMT89)	
R804	1-217-778-11	FUSIBLE 1K 5%	1W F	T801	1-453-153-11	TRANSFORMER ASSY, FLYBACK (NJA-JU2602A2)	
R807	1-216-037-00	METAL GLAZE 330 5%	1/10W	T803	1-437-090-00	HDT	
R811	1-216-033-00	METAL GLAZE 220 5%	1/10W	T895	1-413-059-00	TRANSFORMER, FERRITE (DFT)	
R812	1-216-061-00	METAL GLAZE 3.3K 5%	1/10W	*****			
R818	1-216-685-11	METAL CHIP 27K 0.50%	1/10W				
R819	1-247-755-11	CARBON 1.8K 5%	1/2W F				



REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
*A-1642-116-A D4 BOARD, COMPLETE *****							
< CAPACITOR >							
C1841	1-137-371-11	FILM 0.015MF	5% 50V	R1842	1-260-111-11	CARBON 10K 5%	1/2W
C1844	1-106-383-00	MYLAR 0.047MF	5% 200V	R1843	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W
C1845	1-130-785-11	MYLAR 0.47MF	10% 100V	R1844	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W
C1851	1-126-103-11	ELECT 470MF	20% 16V	R1847	1-249-399-11	CARBON 33 5%	1/4W F
C1854	1-124-910-11	ELECT 47MF	20% 50V				
C1855	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V	R1848	1-216-434-11	METAL OXIDE 1.8K 5%	1W F
C1858	1-163-275-11	CERAMIC CHIP 0.001MF	5% 50V	R1849	1-260-111-11	CARBON 10K 5%	1/2W
C1859	1-163-275-11	CERAMIC CHIP 0.001MF	5% 50V	R1852	1-216-089-91	METAL GLAZE 47K 5%	1/10W
C1860	1-163-989-11	CERAMIC CHIP 0.033MF	10% 25V	R1853	1-216-691-11	METAL CHIP 47K 0.50%	1/10W
C1861	1-163-989-11	CERAMIC CHIP 0.033MF	10% 25V	R1854	1-216-073-00	METAL GLAZE 10K 5%	1/10W
C1862	1-124-657-00	ELECT 10MF	20% 50V	R1860	1-216-021-00	METAL GLAZE 68 5%	1/10W
C1863	1-136-104-00	FILM 0.16MF	5% 200V	R1861	1-216-073-00	METAL GLAZE 10K 5%	1/10W
C1867	1-126-103-11	ELECT 470MF	20% 16V	R1862	1-216-055-00	METAL GLAZE 1.8K 5%	1/10W
C1892	1-163-989-11	CERAMIC CHIP 0.033MF	10% 25V	R1863	1-218-758-11	METAL CHIP 180K 0.50%	1/10W
< CONNECTOR >				R1873	1-216-474-11	METAL OXIDE 82 5%	3W F
CN1823	*1-573-299-11	CONNECTOR, BOARD TO BOARD 10P		R1875	1-216-683-11	METAL CHIP 22K 0.50%	1/10W
CN1841	*1-568-878-51	PIN, CONNECTOR 3P		R1877	1-216-097-00	METAL GLAZE 100K 5%	1/10W
CN1842	1-508-784-00	PIN, CONNECTOR (5MM PITCH) 1P		R1878	1-260-091-11	CARBON 220 5%	1/2W
< DIODE >				R1881	1-260-091-11	CARBON 220 5%	1/2W
D1840	8-719-302-43	DIODE EL1Z		R1882	1-215-869-11	METAL OXIDE 1K 5%	1W F
D1841	8-719-914-43	DIODE DAN202K					
D1856	8-719-914-43	DIODE DAN202K		R1893	1-216-474-11	METAL OXIDE 82 5%	3W F
D1867	8-719-987-87	DIODE ERA85-009TP3		R1894	1-216-073-00	METAL GLAZE 10K 5%	1/10W
D1868	8-719-987-87	DIODE ERA85-009		R1895	1-216-097-00	METAL GLAZE 100K 5%	1/10W
D1882	8-719-109-89	DIODE RD5.6ESB2		R1898	1-216-037-00	METAL GLAZE 330 5%	1/10W
D1883	8-719-109-89	DIODE RD5.6ESB2		R1899	1-216-037-00	METAL GLAZE 330 5%	1/10W
< IC >				< VARIABLE RESISTOR >			
IC1851	8-759-708-05	IC NJM78L05A		RV1851	1-241-765-11	RES, ADJ, CERMET 22K	
IC1852	8-759-135-80	IC UPC358C		RV1853	1-241-628-11	RES, ADJ, CARBON 2.2K	
IC1853	8-759-902-21	IC SN74LS221N		< TRANSFORMER >			
< COIL >				T1851	1-423-786-11	TRANSFORMER, FERRITE (VPOT)	
L1841	1-459-075-00	COIL, DYNAMIC CONVERSION CHOKE		*****			
L1843	1-459-104-00	COIL, WITH CORE		*A-1644-040-A VM BOARD, COMPLETE *****			
L1852	1-459-390-00	COIL (WITH CORE)		< CAPACITOR >			
< TRANSISTOR >				C1701	1-124-119-00	ELECT 330MF	20% 16V
Q1840	8-729-920-74	TRANSISTOR 2SC2412K-QR		C1702	1-101-880-00	CERAMIC 47PF	5% 50V
Q1841	8-729-195-82	TRANSISTOR 2SC2958-L		C1703	1-102-115-00	CERAMIC 560PF	10% 50V
Q1851	8-729-920-74	TRANSISTOR 2SC2412K-QR		C1704	1-161-830-00	CERAMIC 0.0047MF	500V
Q1854	8-729-216-22	TRANSISTOR 2SA1162-G		C1705	1-124-120-11	ELECT 220MF	20% 16V
Q1855	8-729-920-74	TRANSISTOR 2SC2412K-QR		C1706	1-123-935-00	ELECT 33MF	20% 160V
Q1856	8-729-017-05	TRANSISTOR 2SA1837		C1707	1-124-907-11	ELECT 10MF	20% 50V
Q1857	8-729-122-03	TRANSISTOR 2SA1220A-P		C1708	1-101-006-00	CERAMIC 0.047MF	50V
Q1858	8-729-920-92	TRANSISTOR 2SD2096-EF		C1709	1-108-704-11	MYLAR 0.1MF	10% 200V
Q1859	8-729-216-22	TRANSISTOR 2SA1162-G		C1710	1-136-207-11	FILM 0.047MF	10% 250V
Q1860	8-729-920-74	TRANSISTOR 2SC2412K-QR		C1711	1-162-318-11	CERAMIC 0.001MF	10% 500V
Q1861	8-729-017-06	TRANSISTOR 2SC4793		C1712	1-124-799-11	ELECT 2.2MF	20% 160V
< RESISTOR >				C1713	1-162-318-11	CERAMIC 0.001MF	10% 500V
JR1851	1-216-295-00	METAL GLAZE 0 5%	1/10W	C1714	1-136-207-11	FILM 0.047MF	10% 250V
R1841	1-216-085-00	METAL GLAZE 33K 5%	1/10W	C1716	1-124-907-11	ELECT 10MF	20% 50V
				C1718	1-124-120-11	ELECT 220MF	20% 16V
				C1719	1-124-927-11	ELECT 4.7MF	20% 50V
				< CONNECTOR >			
				CN1819	*1-568-882-51	PIN, CONNECTOR 7P	
				CN1830	*1-568-878-51	PIN, CONNECTOR 3P	

VM

H1

H2

J

REF.NO.	PART NO.	DESCRIPTION	REMARK
< DIODE >			
D1701	8-719-901-33	DIODE 1SS133	
D1702	8-719-901-33	DIODE 1SS133	
D1703	8-719-901-33	DIODE 1SS133	
D1704	8-719-982-37	DIODE MTZJ-39C	
D1705	8-719-982-37	DIODE MTZJ-39C	
D1706	8-719-901-33	DIODE 1SS133	
D1707	8-719-901-33	DIODE 1SS133	
< COIL >			
L1702	1-408-418-00	INDUCTOR 56UH	
< TRANSISTOR >			
Q1701	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q1702	8-729-173-38	TRANSISTOR 2SA733-K	
Q1703	8-729-017-05	TRANSISTOR 2SA1837	
Q1704	*4-368-683-21	SPRING, TRANSISTOR (Q1703)	
Q1705	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q1705	8-729-017-06	TRANSISTOR 2SC4793	
Q1706	*4-368-683-21	SPRING, TRANSISTOR (Q1705)	
Q1706	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q1707	8-729-140-96	TRANSISTOR 2SD774-34	
Q1708	8-729-901-59	TRANSISTOR BF199	
Q1709	8-729-255-12	TRANSISTOR 2SC2551-0	
< RESISTOR >			
R1701	1-247-807-31	CARBON 100 5% 1/4W	
R1702	1-249-420-11	CARBON 1.8K 5% 1/4W	
R1703	1-247-807-31	CARBON 100 5% 1/4W	
R1704	1-249-420-11	CARBON 1.8K 5% 1/4W	
R1705	1-247-736-11	CARBON 56 5% 1/2W F	
R1706	1-249-414-11	CARBON 560 5% 1/4W F	
R1707	1-249-412-11	CARBON 390 5% 1/4W	
R1709	1-249-416-11	CARBON 820 5% 1/4W	
R1710	1-249-385-11	CARBON 2.2 5% 1/4W F	
R1711	1-249-432-11	CARBON 18K 5% 1/4W	
R1712	1-249-435-11	CARBON 33K 5% 1/4W	
R1713	1-249-438-11	CARBON 56K 5% 1/4W	
R1714	1-249-429-11	CARBON 10K 5% 1/4W	
R1715	1-216-476-11	METAL OXIDE 180 5% 3W F	
R1716	1-249-417-11	CARBON 1K 5% 1/4W F	
R1717	1-249-432-11	CARBON 18K 5% 1/4W	
R1718	1-249-410-11	CARBON 270 5% 1/4W	
R1719	1-249-419-11	CARBON 1.5K 5% 1/4W	
R1720	1-249-441-11	CARBON 100K 5% 1/4W	
R1721	1-249-414-11	CARBON 560 5% 1/4W	
R1722	1-249-385-11	CARBON 2.2 5% 1/4W F	
R1723	1-249-429-11	CARBON 10K 5% 1/4W	
R1724	1-249-436-11	CARBON 39K 5% 1/4W	
R1725	1-249-417-11	CARBON 1K 5% 1/4W	
R1726	1-249-411-11	CARBON 330 5% 1/4W	
R1727	1-249-402-11	CARBON 56 5% 1/4W F	
R1729	1-216-451-11	METAL OXIDE 120 5% 2W F	
R1731	1-249-420-11	CARBON 1.8K 5% 1/4W	
R1732	1-249-426-11	CARBON 5.6K 5% 1/4W	
R1734	1-249-419-11	CARBON 1.5K 5% 1/4W	

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REF.NO.	PART NO.	DESCRIPTION	REMARK
*1-648-314-11 H1 BOARD, COMPLETE *****			
< CAPACITOR >			
C083	1-163-037-11	CERAMIC CHIP 0.022MF	10% 25V
C087	1-163-037-11	CERAMIC CHIP 0.022MF	10% 25V
< CONNECTOR >			
CN1008	*1-564-516-11	PLUG, CONNECTOR 13P	
< COIL >			
L081	1-408-409-00	INDUCTOR 10UH	
L082	1-408-409-00	INDUCTOR 10UH	
< RESISTOR >			
JR021	1-216-295-00	METAL GLAZE 0 5% 1/10W	
R081	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R082	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R083	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
R084	1-216-202-00	METAL GLAZE 1.5K 5% 1/8W	
R085	1-216-202-00	METAL GLAZE 1.5K 5% 1/8W	
< SWITCH >			
S081	1-571-532-21	SWITCH, TACTIL	
S082	1-571-532-21	SWITCH, TACTIL	
S083	1-571-532-21	SWITCH, TACTIL	
*****			
*1-650-759-11 H2 BOARD *****			
< CONNECTOR >			
CN1132	*1-568-882-51	PIN, CONNECTOR 7P	
< DIODE >			
D092	8-719-948-31	DIODE LD-201VR	
D093	8-719-948-31	DIODE LD-201VR	
D094	8-719-948-31	DIODE LD-201VR	
< IC >			
IC091	8-741-101-75	IC SBX1610-11	
< RESISTOR >			
R091	1-249-413-11	CARBON 470 5% 1/4W	
*****			
*A-1651-057-A J BOARD, COMPLETE *****			
< CAPACITOR >			
C281	1-124-119-00	ELECT 330MF	20% 16V
C295	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V
C296	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V
C906	1-101-004-00	CERAMIC 0.01MF	50V
C910	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V
C911	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V
C912	1-163-133-00	CERAMIC CHIP 470PF	5% 50V
C913	1-163-133-00	CERAMIC CHIP 470PF	5% 50V



REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
C914	1-163-121-00	CERAMIC CHIP 150PF	5% 50V	JR924	1-216-296-00	METAL GLAZE 0	5% 1/8W
C915	1-163-121-00	CERAMIC CHIP 150PF	5% 50V	JR926	1-216-296-00	METAL GLAZE 0	5% 1/8W
C916	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V	JR927	1-216-296-00	METAL GLAZE 0	5% 1/8W
C917	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V	JR928	1-216-296-00	METAL GLAZE 0	5% 1/8W
C922	1-124-477-11	ELECT 47MF	20% 16V	JR935	1-216-296-00	METAL GLAZE 0	5% 1/8W
C923	1-164-346-11	CERAMIC CHIP 1MF	16V	JR942	1-216-296-00	METAL GLAZE 0	5% 1/8W
C924	1-124-477-11	ELECT 47MF	20% 16V	JR952	1-216-296-00	METAL GLAZE 0	5% 1/8W
C925	1-124-477-11	ELECT 47MF	20% 16V	JR954	1-216-295-00	METAL GLAZE 0	5% 1/10W
C926	1-164-346-11	CERAMIC CHIP 1MF	16V	JR955	1-216-296-00	METAL GLAZE 0	5% 1/8W
C927	1-124-477-11	ELECT 47MF	20% 16V	JR956	1-216-295-00	METAL GLAZE 0	5% 1/10W
C928	1-124-477-11	ELECT 47MF	20% 16V	JR957	1-216-295-00	METAL GLAZE 0	5% 1/10W
C929	1-124-477-11	ELECT 47MF	20% 16V	R283	1-216-073-00	METAL GLAZE 10K	5% 1/10W
C930	1-124-477-11	ELECT 47MF	20% 16V	R284	1-216-073-00	METAL GLAZE 10K	5% 1/10W
C931	1-164-346-11	CERAMIC CHIP 1MF	16V	R289	1-216-055-00	METAL GLAZE 1.8K	5% 1/10W
C932	1-164-346-11	CERAMIC CHIP 1MF	16V	R291	1-249-413-11	CARBON 470	5% 1/4W
				R292	1-249-413-11	CARBON 470	5% 1/4W
< CONNECTOR >				R911	1-216-022-00	METAL GLAZE 75	5% 1/10W
CN1209	1-695-302-11	CONNECTOR, BOARD TO BOARD 50P		R921	1-216-022-00	METAL GLAZE 75	5% 1/10W
CN1210	*1-564-522-11	PLUG, CONNECTOR 7P		R922	1-216-222-00	METAL GLAZE 10K	5% 1/8W
CN1240	*1-564-519-11	PLUG, CONNECTOR 4P		R923	1-216-039-00	METAL GLAZE 390	5% 1/10W
				R924	1-216-039-00	METAL GLAZE 390	5% 1/10W
< DIODE >				R925	1-216-089-91	METAL GLAZE 47K	5% 1/10W
D903	8-719-921-69	DIODE MTZJ9.1		R926	1-216-039-00	METAL GLAZE 390	5% 1/10W
D904	8-719-921-69	DIODE MTZJ9.1		R927	1-216-039-00	METAL GLAZE 390	5% 1/10W
D907	8-719-921-69	DIODE MTZJ9.1		R928	1-216-089-91	METAL GLAZE 47K	5% 1/10W
D908	8-719-921-69	DIODE MTZJ9.1		R929	1-216-063-00	METAL GLAZE 3.9K	5% 1/10W
D909	8-719-921-69	DIODE MTZJ9.1		R930	1-216-113-00	METAL GLAZE 470K	5% 1/10W
D910	8-719-921-69	DIODE MTZJ9.1		R931	1-216-212-00	METAL GLAZE 3.9K	5% 1/8W
D911	8-719-921-69	DIODE MTZJ9.1		R932	1-216-113-00	METAL GLAZE 470K	5% 1/10W
D912	8-719-921-69	DIODE MTZJ9.1		R933	1-216-073-00	METAL GLAZE 10K	5% 1/10W
D913	8-719-921-69	DIODE MTZJ9.1		R934	1-216-063-00	METAL GLAZE 3.9K	5% 1/10W
D914	8-719-921-69	DIODE MTZJ9.1		R935	1-216-022-00	METAL GLAZE 75	5% 1/10W
D915	8-719-921-69	DIODE MTZJ9.1		R936	1-216-022-00	METAL GLAZE 75	5% 1/10W
D916	8-719-921-69	DIODE MTZJ9.1		R937	1-216-113-00	METAL GLAZE 470K	5% 1/10W
D917	8-719-921-69	DIODE MTZJ9.1		R938	1-216-039-00	METAL GLAZE 390	5% 1/10W
D924	8-719-921-69	DIODE MTZJ9.1		R939	1-216-188-00	METAL GLAZE 390	5% 1/8W
D925	8-719-921-69	DIODE MTZJ9.1		R940	1-216-063-00	METAL GLAZE 3.9K	5% 1/10W
D926	8-719-921-69	DIODE MTZJ9.1		R941	1-216-113-00	METAL GLAZE 470K	5% 1/10W
D927	8-719-921-69	DIODE MTZJ9.1		R942	1-216-188-00	METAL GLAZE 390	5% 1/8W
D928	8-719-921-69	DIODE MTZJ9.1		R943	1-216-089-91	METAL GLAZE 47K	5% 1/10W
D999	8-719-110-39	DIODE RD15ESB1		R944	1-216-188-00	METAL GLAZE 390	5% 1/8W
< JACK >				R945	1-216-089-91	METAL GLAZE 47K	5% 1/10W
J291	1-537-505-11	TERMINAL BOARD (2P)		R959	1-216-674-11	METAL CHIP 9.1K	0.50% 1/10W
J903	1-561-534-41	SOCKET, PIN 21P		R960	1-216-674-11	METAL CHIP 9.1K	0.50% 1/10W
J905	1-695-293-11	SOCKET 21P		R968	1-216-055-00	METAL GLAZE 1.8K	5% 1/10W
				R969	1-216-055-00	METAL GLAZE 1.8K	5% 1/10W
< TRANSISTOR >				R970	1-216-055-00	METAL GLAZE 1.8K	5% 1/10W
Q281	8-729-920-74	TRANSISTOR 2SC2412K-QR		R977	1-216-055-00	METAL GLAZE 1.8K	5% 1/10W
Q282	8-729-920-74	TRANSISTOR 2SC2412K-QR		*****			
< RESISTOR >							
JR901	1-216-295-00	METAL GLAZE 0	5% 1/10W				
JR906	1-216-295-00	METAL GLAZE 0	5% 1/10W				
JR915	1-216-295-00	METAL GLAZE 0	5% 1/10W				
JR917	1-216-296-00	METAL GLAZE 0	5% 1/8W				
JR918	1-216-295-00	METAL GLAZE 0	5% 1/10W				
JR919	1-216-296-00	METAL GLAZE 0	5% 1/8W				
JR920	1-216-295-00	METAL GLAZE 0	5% 1/10W				
JR921	1-216-295-00	METAL GLAZE 0	5% 1/10W				

shading and marked . are critical  
for safety.  
Replace only with the part number  
specified.

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
		MISCELLANEOUS *****					
	1-406-807-21	COIL, DEGAUSSING					
	8-451-422-11	DEFLECTION YOKE (Y29GXA)					
	1-452-509-11	NECK ASSY, PICTURE TUBE (NA-308)					
	1-544-728-11	SPEAKER					
	1-690-270-21	CORD, POWER (WITH CONNECTOR) (KV-X2971B, X2973E)					
	1-590-762-11	CORD, POWER (WITH PLUG) (KV-X2972U)					
	1-751-680-11	CORD, POWER (WITH NOISE FILTER) (KV-X2971A, X2971D, X2971K)					
V901	8-733-841-05	PICTURE TUBE (M68KZT10X)					
		*****					
		ACCESSORIES AND PACKING MATERIALS *****					
	4-202-606-11	MANUAL, INSTRUCTION (KV-X2971D) (GERMAN/ENGLISH//DUTCH/GREEK)					
	4-202-606-41	MANUAL, INSTRUCTION (KV-X2971A) (ITALIAN)					
	4-202-606-51	MANUAL, INSTRUCTION (KV-X2971B) (GERMAN/FRENCH/ITALIAN)					
	4-202-606-61	MANUAL, INSTRUCTION (KV-X2972U) (ENGLISH)					
	4-202-606-71	MANUAL, INSTRUCTION (KV-X2973E) (SPANISH)					
	4-202-606-81	MANUAL, INSTRUCTION (KV-X2973E) (FRENCH/DUTCH/SWEDISH/DANISH/GERMAN FINNISH/NORWEGIAN/PORTUGUESE)					
	4-202-606-91	MANUAL, INSTRUCTION (KV-X2971K) (GERMAN/ENGLISH/RUSSIAN/HUNGARIAN/POLISH)					
	*4-039-906-01	BAG, PROTECTION					
	*4-042-127-01	CUSHION (UPPER) (ASSY)					
	*4-042-126-01	CUSHION (LOWER) (ASSY)					
	*4-042-128-01	INDIVIDUAL CARTON					
		REMOTE COMMANDER *****					
	1-467-272-11	COMMANDER, STANDARD TYPE (RM-831)					
	9-903-466-01	POCKET COVER (FOR RM-831)					
		*****					